



# Full wwPDB/EMDatabank EM Map/Model Validation Report ⓘ

Oct 13, 2019 – 08:09 PM EDT

PDB ID : 4V8T  
EMDB ID: : EMD-2169  
Title : Cryo-EM Structure of the 60S Ribosomal Subunit in Complex with Arx1 and Re1  
Authors : Greber, B.J.; Boehringer, D.; Montellese, C.; Ban, N.  
Deposited on : 2012-08-07  
Resolution : 8.10 Å(reported)  
Based on PDB ID : 3U5I, 3U5H

This is a Full wwPDB/EMDatabank EM Map/Model Validation Report  
for a publicly released PDB/EMDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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MolProbity : 4.02b-467  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.4

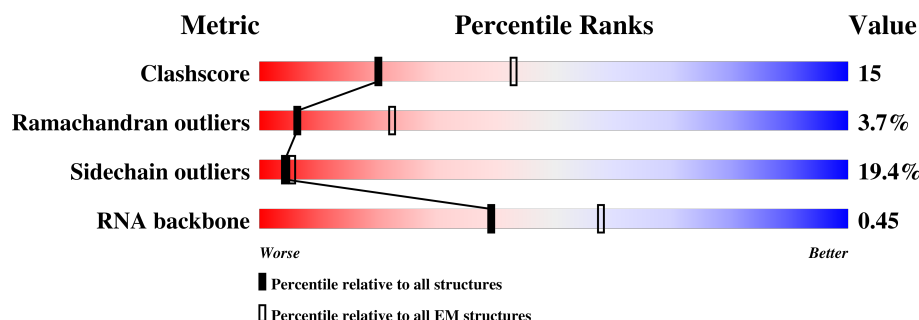
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 8.10 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.















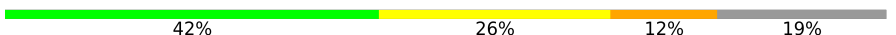












Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	136327	1886
Ramachandran outliers	132723	1663
Sidechain outliers	132532	1531
RNA backbone	3747	458

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ .

Mol	Chain	Length	Quality of chain
1	A	254	59% 29% 10% ..
2	B	387	58% 28% 11% .
3	C	362	54% 33% 11% .
4	D	297	59% 31% 8% ..
5	E	176	63% 18% 7% . 11%
6	F	244	60% 25% 6% . 9%
7	G	256	44% 32% 13% . 10%
8	H	191	50% 36% 13% .

















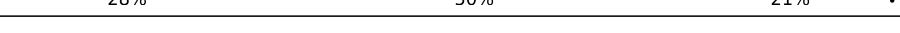
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Mol	Chain	Length	Quality of chain
9	I	221	
10	J	174	
11	K	155	
12	L	199	
13	M	138	
14	N	204	
15	O	219	
16	P	184	
17	Q	186	
18	R	189	
19	S	172	
20	T	160	
21	U	121	
22	V	137	
23	W	155	
24	X	142	
25	Y	127	
26	Z	136	
27	a	149	
28	b	59	
29	c	105	
30	d	113	
31	e	130	
32	f	107	
33	g	121	

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Mol	Chain	Length	Quality of chain
34	h	120	
35	i	100	
36	j	88	
37	k	78	
38	l	51	
39	m	128	
40	n	25	
41	o	106	
42	p	92	
43	q	312	
44	r	47	
45	s	46	
46	t	614	
47	1	114	
48	5	3396	
49	7	121	
50	8	158	

## 2 Entry composition

There are 51 unique types of molecules in this entry. The entry contains 130050 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called 60S RIBOSOMAL PROTEIN L2-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	252	Total	C	N	O	S	0	0
			1912	1190	388	333	1		

- Molecule 2 is a protein called 60S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 3 is a protein called 60S RIBOSOMAL PROTEIN L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 4 is a protein called 60S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	294	Total	C	N	O	S	0	0
			2359	1489	412	456	2		

- Molecule 5 is a protein called 60S RIBOSOMAL PROTEIN L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	157	Total	C	N	O	S	0	0
			1248	806	224	217	1		

- Molecule 6 is a protein called 60S RIBOSOMAL PROTEIN L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	223	Total	C	N	O	S	0	0
			1791	1155	325	310	1		

- Molecule 7 is a protein called 60S RIBOSOMAL PROTEIN L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	231	Total	C	N	O	S	0	0
			1763	1130	316	314	3		

- Molecule 8 is a protein called 60S RIBOSOMAL PROTEIN L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 9 is a protein called 60S RIBOSOMAL PROTEIN L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	213	Total	C	N	O	S	0	0
			1722	1094	325	297	6		

- Molecule 10 is a protein called 60S RIBOSOMAL PROTEIN L11-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	3	ALA	THR	conflict	UNP Q3E757

- Molecule 11 is a protein called 60S RIBOSOMAL PROTEIN L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	150	Total	C	N	O		0	0
			750	450	150	150			

- Molecule 12 is a protein called 60S RIBOSOMAL PROTEIN L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	194	Total	C	N	O		0	0
			1548	965	316	267			

- Molecule 13 is a protein called 60S RIBOSOMAL PROTEIN L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	137	Total	C	N	O	S	0	0
			1059	678	200	179	2		

- Molecule 14 is a protein called 60S RIBOSOMAL PROTEIN L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 15 is a protein called 60S RIBOSOMAL PROTEIN L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	197	Total	C	N	O	S	197	0
			3119	2008	581	528	2		

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O	3	SER	VAL	microheterogeneity	UNP P26784
O	4	GLN	GLU	microheterogeneity	UNP P26784
O	11	ALA	GLY	microheterogeneity	UNP P26784
O	13	ASP	GLY	microheterogeneity	UNP P26784
O	16	LEU	VAL	microheterogeneity	UNP P26784
O	22	THR	VAL	microheterogeneity	UNP P26784
O	23	ILE	VAL	microheterogeneity	UNP P26784
O	27	VAL	LEU	microheterogeneity	UNP P26784
O	40	ALA	GLU	microheterogeneity	UNP P26784
O	80	LEU	PHE	microheterogeneity	UNP P26784
O	84	ILE	LEU	microheterogeneity	UNP P26784
O	104	ILE	VAL	microheterogeneity	UNP P26784
O	158	ASP	ALA	microheterogeneity	UNP P26784
O	163	ARG	SER	microheterogeneity	UNP P26784
O	179	SER	ALA	microheterogeneity	UNP P26784
O	182	SER	ASN	microheterogeneity	UNP P26784
O	184	ALA	THR	microheterogeneity	UNP P26784
O	186	ALA	SER	microheterogeneity	UNP P26784
O	196	ALA	SER	microheterogeneity	UNP P26784
O	197	LEU	PHE	microheterogeneity	UNP P26784

- Molecule 16 is a protein called 60S RIBOSOMAL PROTEIN L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	P	155	Total	C	N	O	0	0
			1227	764	238	225		

- Molecule 17 is a protein called 60S RIBOSOMAL PROTEIN L18-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 18 is a protein called 60S RIBOSOMAL PROTEIN L19-B.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	R	188	Total	C	N	O	0	0
			1521	935	326	260		

- Molecule 19 is a protein called 60S RIBOSOMAL PROTEIN L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 20 is a protein called 60S RIBOSOMAL PROTEIN L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 21 is a protein called 60S RIBOSOMAL PROTEIN L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	U	98	Total	C	N	O	0	0
			778	505	127	146		

- Molecule 22 is a protein called 60S RIBOSOMAL PROTEIN L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 23 is a protein called 60S RIBOSOMAL PROTEIN L24-A.



Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	135	Total	C	N	O	S	0	0
			1038	651	206	180	1		

- Molecule 24 is a protein called 60S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	120	Total	C	N	O	S	0	0
			959	617	168	172	2		

- Molecule 25 is a protein called 60S RIBOSOMAL PROTEIN L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	126	Total	C	N	O		0	0
			993	625	192	176			

- Molecule 26 is a protein called 60S RIBOSOMAL PROTEIN L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	135	Total	C	N	O		0	0
			1092	710	202	180			

- Molecule 27 is a protein called 60S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	a	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 28 is a protein called 60S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	b	58	Total	C	N	O		0	0
			462	289	100	73			

- Molecule 29 is a protein called 60S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c	100	Total	C	N	O	S	0	0
			767	492	128	146	1		

- Molecule 30 is a protein called 60S RIBOSOMAL PROTEIN L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	d	109	Total	C	N	O	S	0	0
			883	559	167	156	1		

- Molecule 31 is a protein called 60S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	e	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 32 is a protein called 60S RIBOSOMAL PROTEIN L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	f	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 33 is a protein called 60S RIBOSOMAL PROTEIN L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 34 is a protein called 60S RIBOSOMAL PROTEIN L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	h	119	Total	C	N	O	S	0	0
			965	612	185	167	1		

- Molecule 35 is a protein called 60S RIBOSOMAL PROTEIN L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	i	99	Total	C	N	O	S	0	0
			770	481	156	131	2		

- Molecule 36 is a protein called 60S RIBOSOMAL PROTEIN L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 37 is a protein called 60S RIBOSOMAL PROTEIN L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	k	77	Total	C	N	O	0	0
			608	388	114	106		

- Molecule 38 is a protein called 60S RIBOSOMAL PROTEIN L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 39 is a protein called 60S RIBOSOMAL PROTEIN L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 40 is a protein called 60S RIBOSOMAL PROTEIN L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	n	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 41 is a protein called 60S RIBOSOMAL PROTEIN L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 42 is a protein called 60S RIBOSOMAL PROTEIN L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 43 is a protein called 60S ACIDIC RIBOSOMAL PROTEIN P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	q	143	Total	C	N	O	S	0	0
			1077	687	192	195	3		

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
q	199	UNK	SER	SEE REMARK 999	UNP P05317
q	200	UNK	SER	SEE REMARK 999	UNP P05317
q	201	UNK	ILE	SEE REMARK 999	UNP P05317
q	202	UNK	LEU	SEE REMARK 999	UNP P05317
q	203	UNK	ASP	SEE REMARK 999	UNP P05317
q	204	UNK	ILE	SEE REMARK 999	UNP P05317
q	205	UNK	THR	SEE REMARK 999	UNP P05317
q	206	UNK	ASP	SEE REMARK 999	UNP P05317
q	207	UNK	GLU	SEE REMARK 999	UNP P05317
q	208	UNK	GLU	SEE REMARK 999	UNP P05317
q	209	UNK	LEU	SEE REMARK 999	UNP P05317
q	210	UNK	VAL	SEE REMARK 999	UNP P05317
q	211	UNK	SER	SEE REMARK 999	UNP P05317
q	212	UNK	HIS	SEE REMARK 999	UNP P05317
q	213	UNK	PHE	SEE REMARK 999	UNP P05317
q	214	UNK	VAL	SEE REMARK 999	UNP P05317
q	215	UNK	SER	SEE REMARK 999	UNP P05317
q	216	UNK	ALA	SEE REMARK 999	UNP P05317
q	217	UNK	VAL	SEE REMARK 999	UNP P05317
q	218	UNK	SER	SEE REMARK 999	UNP P05317
q	219	UNK	THR	SEE REMARK 999	UNP P05317
q	220	UNK	ILE	SEE REMARK 999	UNP P05317
q	221	UNK	ALA	SEE REMARK 999	UNP P05317

- Molecule 44 is a protein called RIBOSOMAL PROTEIN P1 ALPHA.

Mol	Chain	Residues	Atoms				AltConf	Trace
44	r	47	Total	C	N	O	0	0
			235	141	47	47		

- Molecule 45 is a protein called RIBOSOMAL PROTEIN P2 BETA.

Mol	Chain	Residues	Atoms				AltConf	Trace
45	s	46	Total	C	N	O	0	0
			230	138	46	46		

- Molecule 46 is a protein called PROBABLE METALLOPROTEASE ARX1.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	t	380	Total	C	N	O	S	0	0
			2938	1853	511	563	11		

- Molecule 47 is a RNA chain called ES27 OF THE 25S RRNA.

Mol	Chain	Residues	Atoms	AltConf	Trace
47	1	114	Total P 114 114	0	114

- Molecule 48 is a RNA chain called 25S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	5	3150	Total	C	N	O	P	0	0
			67376	30095	12145	21987	3149		

- Molecule 49 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	7	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 50 is a RNA chain called 5.8S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	8	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

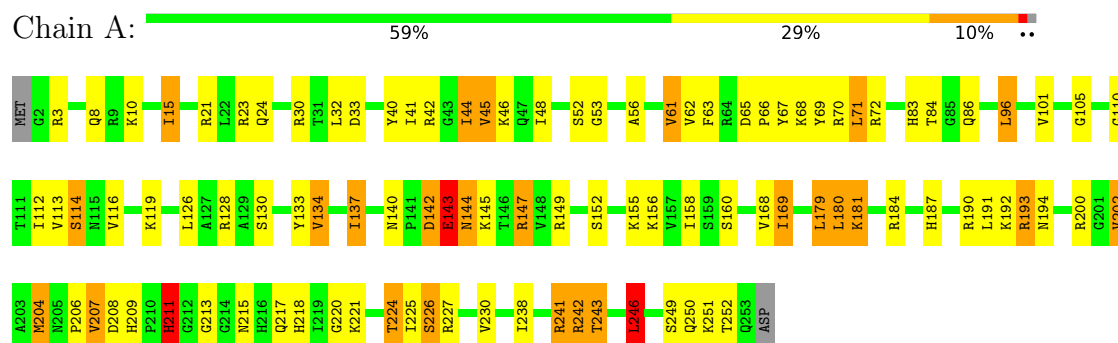
- Molecule 51 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
51	p	1	Total Zn 1 1	0
51	o	1	Total Zn 1 1	0
51	j	1	Total Zn 1 1	0
51	m	1	Total Zn 1 1	0

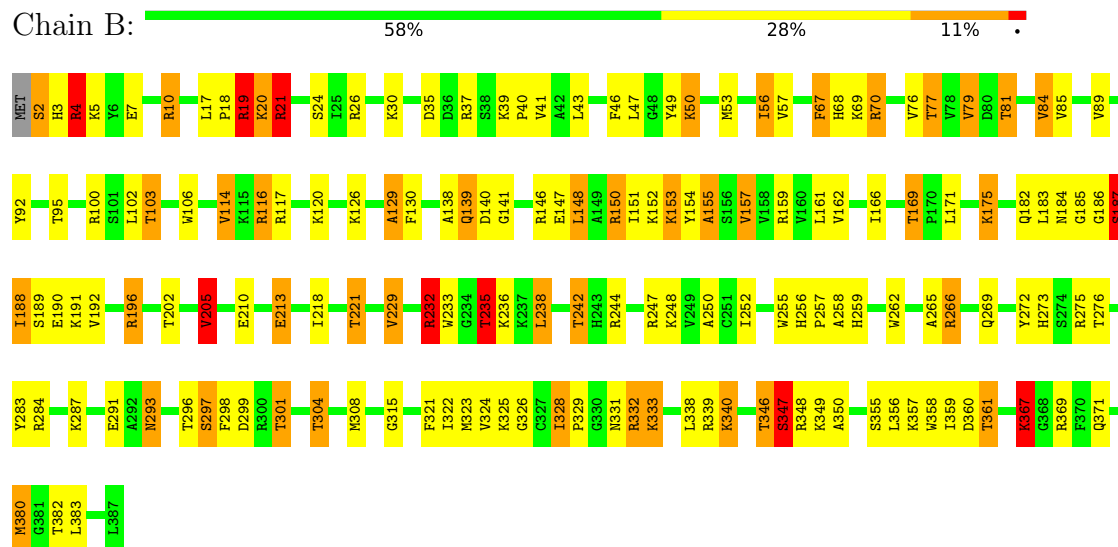
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

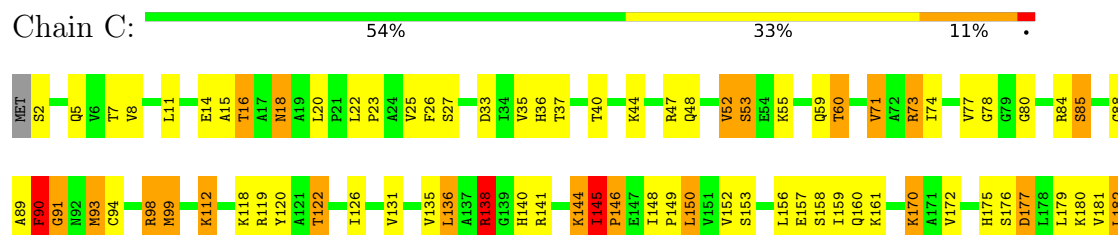
#### • Molecule 1: 60S RIBOSOMAL PROTEIN L2-B

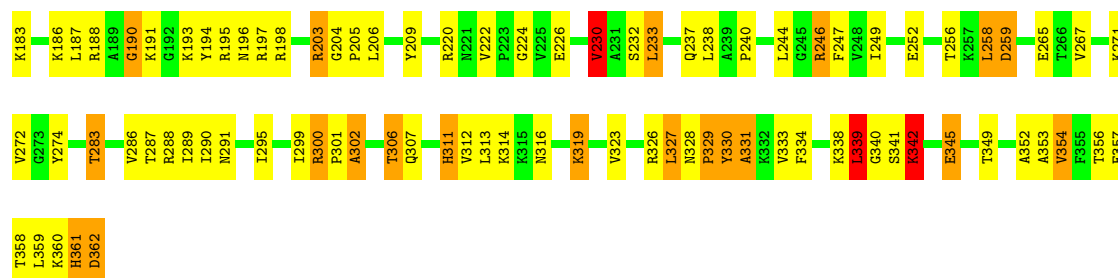


#### • Molecule 2: 60S RIBOSOMAL PROTEIN L3

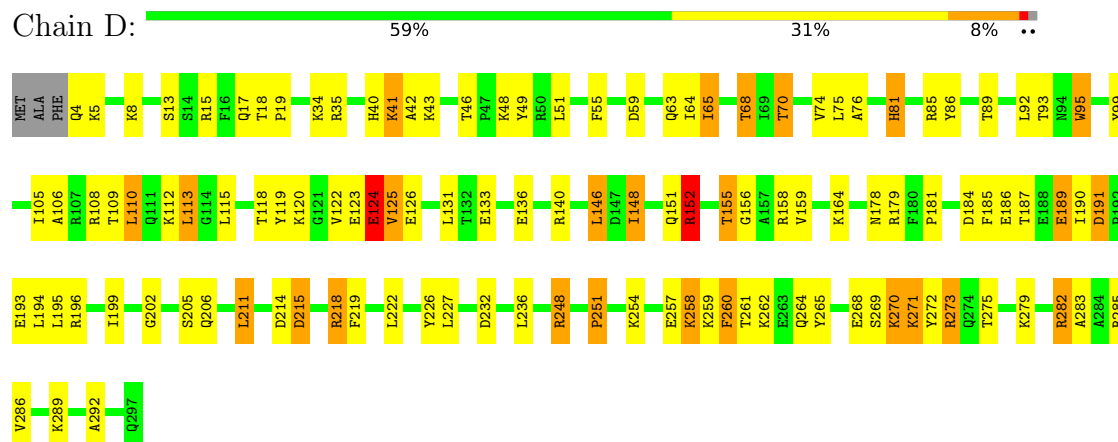


#### • Molecule 3: 60S RIBOSOMAL PROTEIN L4-A





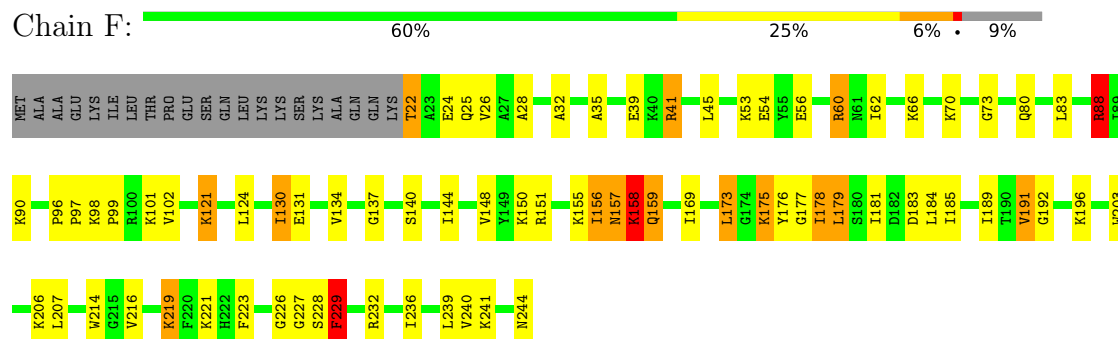
• Molecule 4: 60S RIBOSOMAL PROTEIN L5



• Molecule 5: 60S RIBOSOMAL PROTEIN L6-A

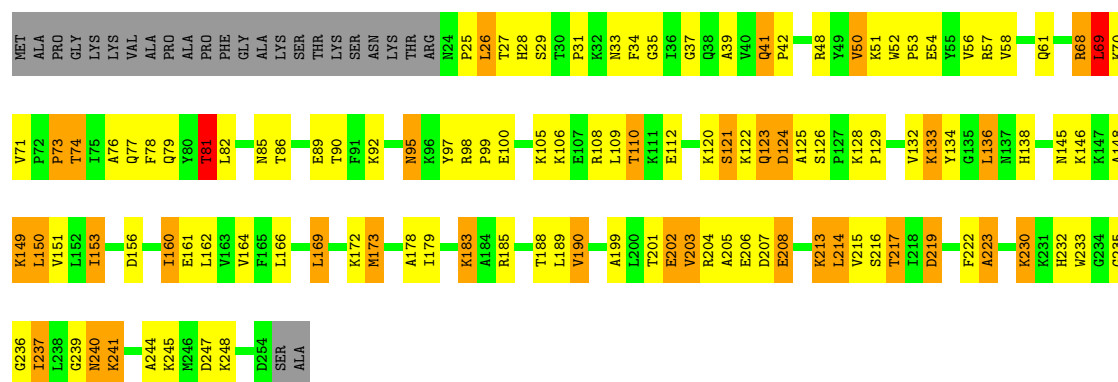


• Molecule 6: 60S RIBOSOMAL PROTEIN L7-A



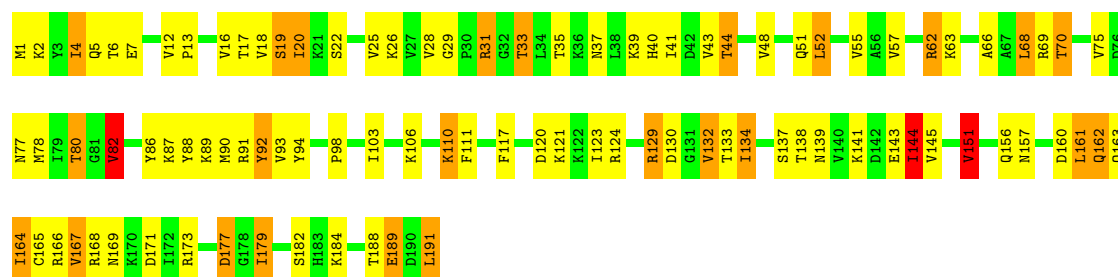
• Molecule 7: 60S RIBOSOMAL PROTEIN L8-A





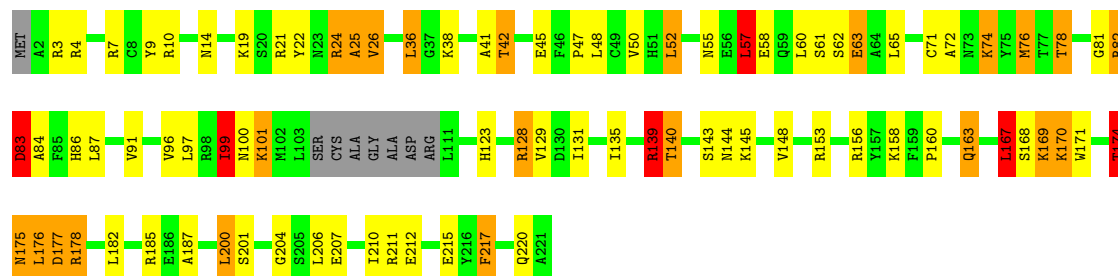
• Molecule 8: 60S RIBOSOMAL PROTEIN L9-A

Chain H: 50% 36% 13% .



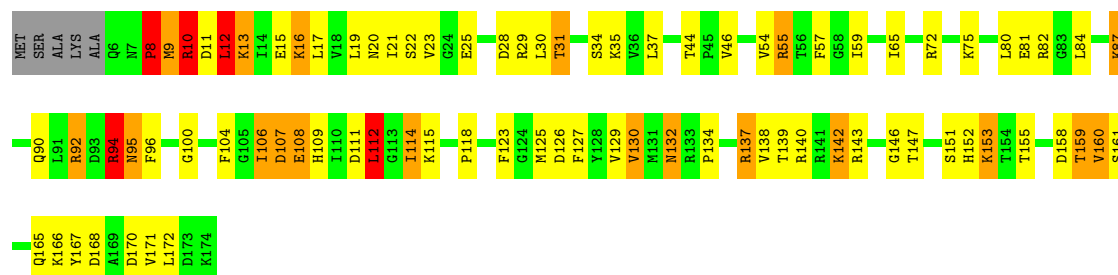
• Molecule 9: 60S RIBOSOMAL PROTEIN L10

Chain I: 57% 26% 10% . .




• Molecule 10: 60S RIBOSOMAL PROTEIN L11-B

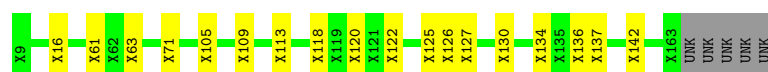
Chain J: 49% 34% 11% . . .



• Molecule 11: 60S RIBOSOMAL PROTEIN L12

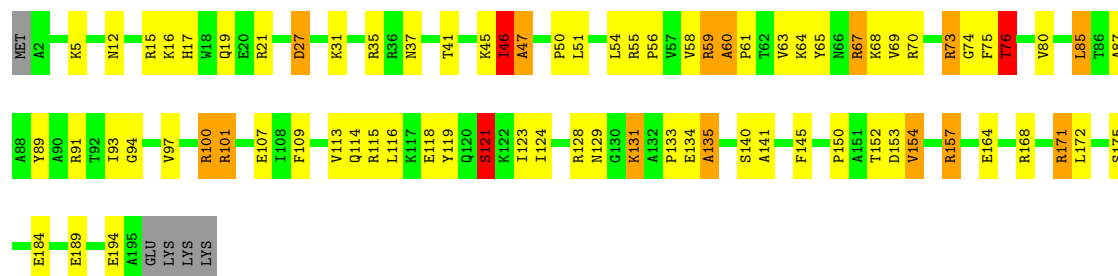


Chain K:  85% 12%



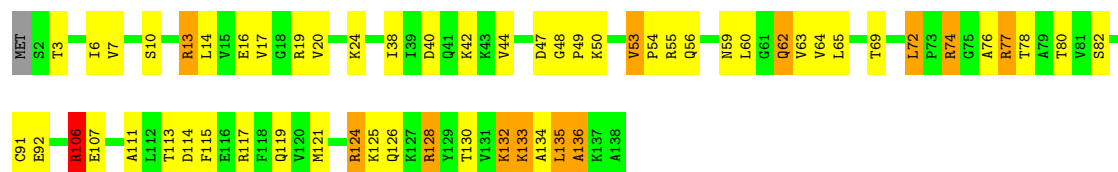
• Molecule 12: 60S RIBOSOMAL PROTEIN L13-A

Chain L:  58% 31% 7%



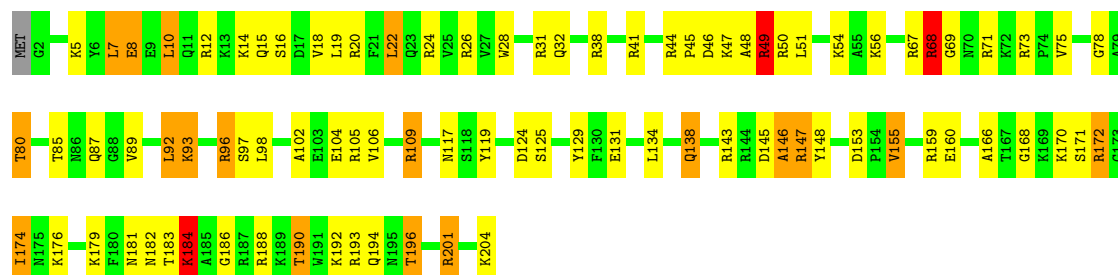
• Molecule 13: 60S RIBOSOMAL PROTEIN L14-A

Chain M:  57% 33% 9%



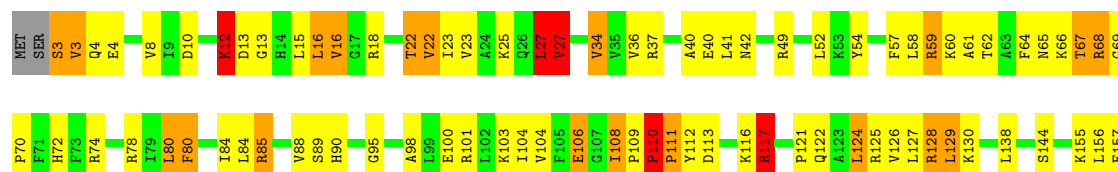
• Molecule 14: 60S RIBOSOMAL PROTEIN L15-A

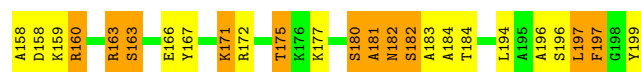
Chain N:  56% 33% 9%



• Molecule 15: 60S RIBOSOMAL PROTEIN L16-A

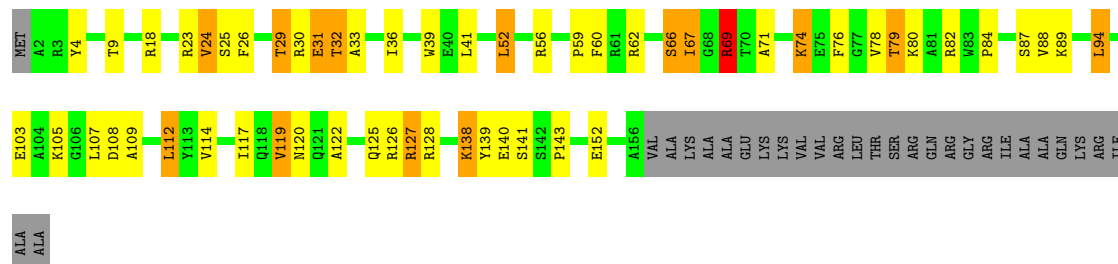
Chain O:  49% 34% 14%





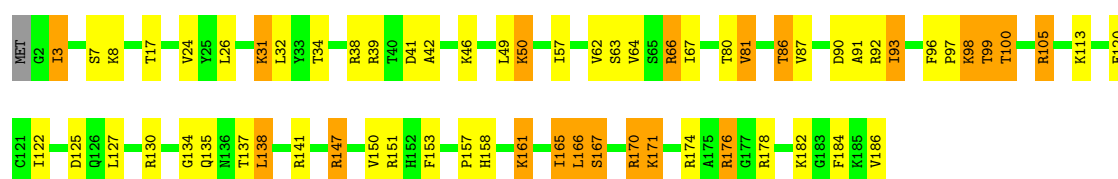
• Molecule 16: 60S RIBOSOMAL PROTEIN L17-A

Chain P: 54% 22% 8% 16%



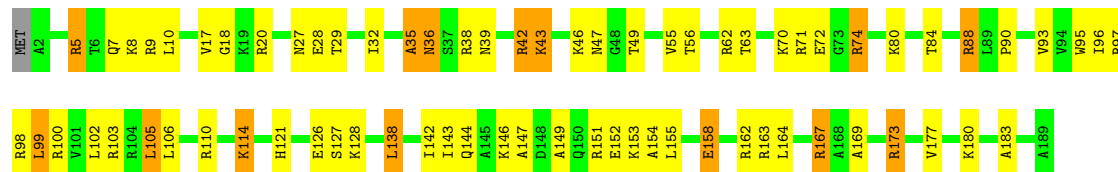
• Molecule 17: 60S RIBOSOMAL PROTEIN L18-B

Chain Q: 65% 24% 11%



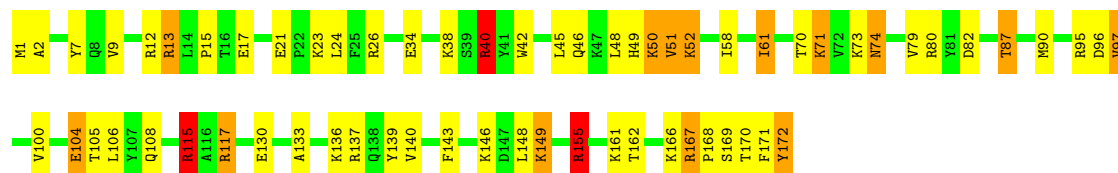
• Molecule 18: 60S RIBOSOMAL PROTEIN L19-B

Chain R: 61% 31% 7%



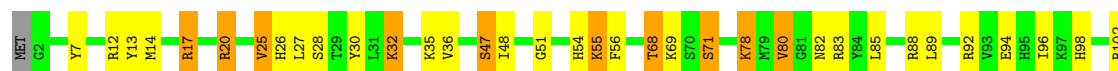
• Molecule 19: 60S RIBOSOMAL PROTEIN L20-A

Chain S: 63% 27% 8%



• Molecule 20: 60S RIBOSOMAL PROTEIN L21-A

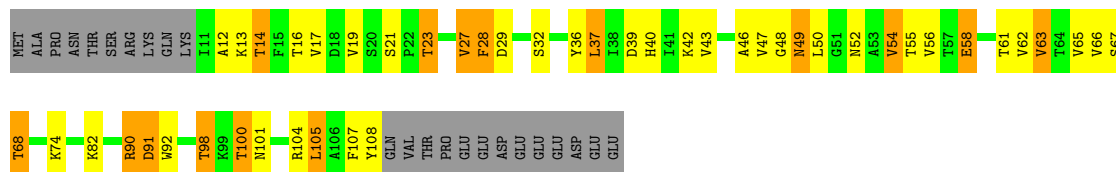
Chain T: 67% 21% 11%





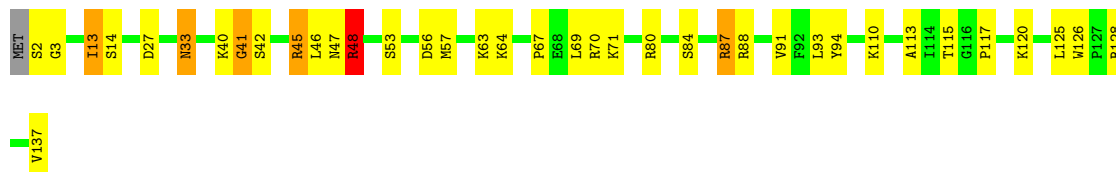
• Molecule 21: 60S RIBOSOMAL PROTEIN L22-A

Chain U: 42% 26% 12% 19%



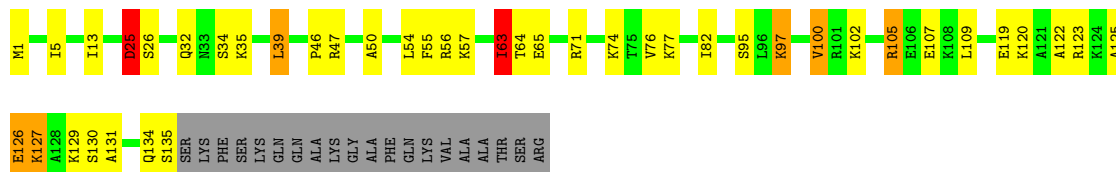
• Molecule 22: 60S RIBOSOMAL PROTEIN L23-A

Chain V: 72% 23% . . .



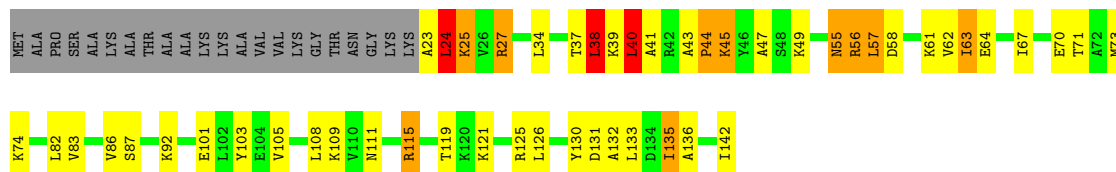
• Molecule 23: 60S RIBOSOMAL PROTEIN L24-A

Chain W: 59% 23% . . 13%



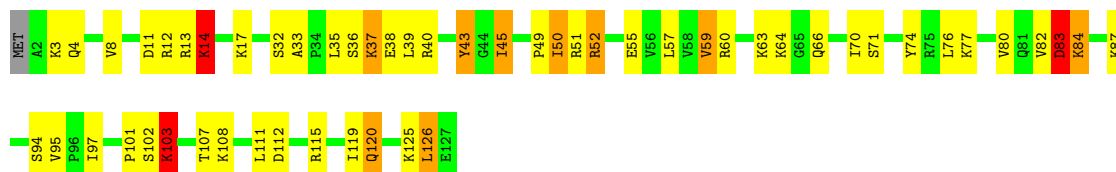
• Molecule 24: 60S RIBOSOMAL PROTEIN L25

Chain X: 49% 27% 7% . 15%



• Molecule 25: 60S RIBOSOMAL PROTEIN L26-A

Chain Y: 57% 33% 7% . .



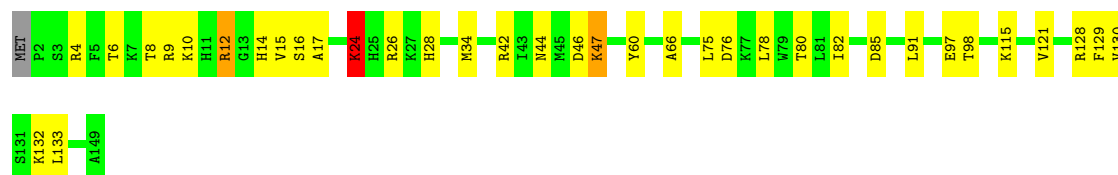
- Molecule 26: 60S RIBOSOMAL PROTEIN L27-A

Chain Z: 



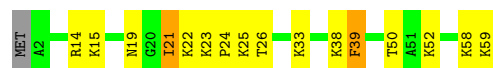
- Molecule 27: 60S RIBOSOMAL PROTEIN L28

Chain a: 




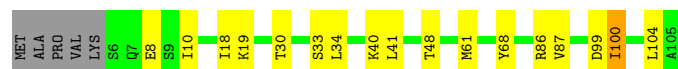
- Molecule 28: 60S RIBOSOMAL PROTEIN L29

Chain b: 



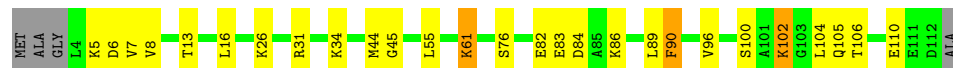
- Molecule 29: 60S RIBOSOMAL PROTEIN L32

Chain c: 



- Molecule 30: 60S RIBOSOMAL PROTEIN L31-A

Chain d: 




- Molecule 31: 60S RIBOSOMAL PROTEIN L30

Chain e: 



- Molecule 32: 60S RIBOSOMAL PROTEIN L33-A

Chain f: 



• Molecule 33: 60S RIBOSOMAL PROTEIN L34-A



• Molecule 34: 60S RIBOSOMAL PROTEIN L35-A



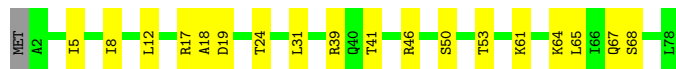
• Molecule 35: 60S RIBOSOMAL PROTEIN L36-A



• Molecule 36: 60S RIBOSOMAL PROTEIN L37-A



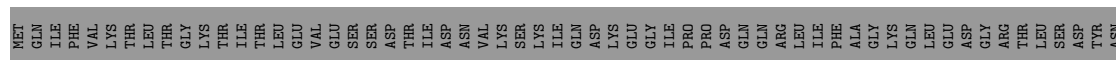
• Molecule 37: 60S RIBOSOMAL PROTEIN L38

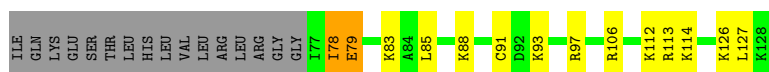


• Molecule 38: 60S RIBOSOMAL PROTEIN L39



• Molecule 39: 60S RIBOSOMAL PROTEIN L40





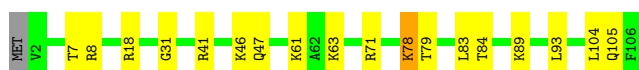
- Molecule 40: 60S RIBOSOMAL PROTEIN L41-A

Chain n: 72% 20% 8%



- Molecule 41: 60S RIBOSOMAL PROTEIN L42-A

Chain o: 82% 16% ..



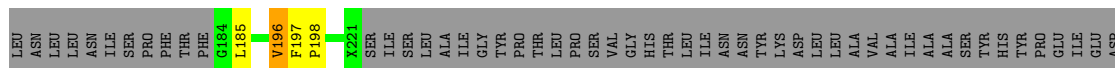
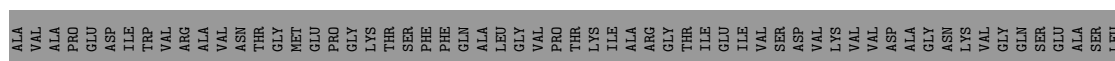
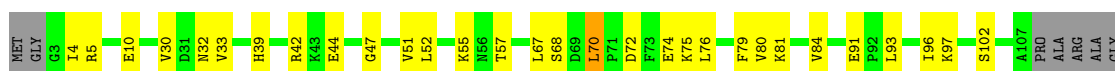
- Molecule 42: 60S RIBOSOMAL PROTEIN L43-A

Chain p: 87% 12% .



- Molecule 43: 60S ACIDIC RIBOSOMAL PROTEIN P0

Chain q: 35% 10% . 54%



- Molecule 44: RIBOSOMAL PROTEIN P1 ALPHA

Chain r: 100%

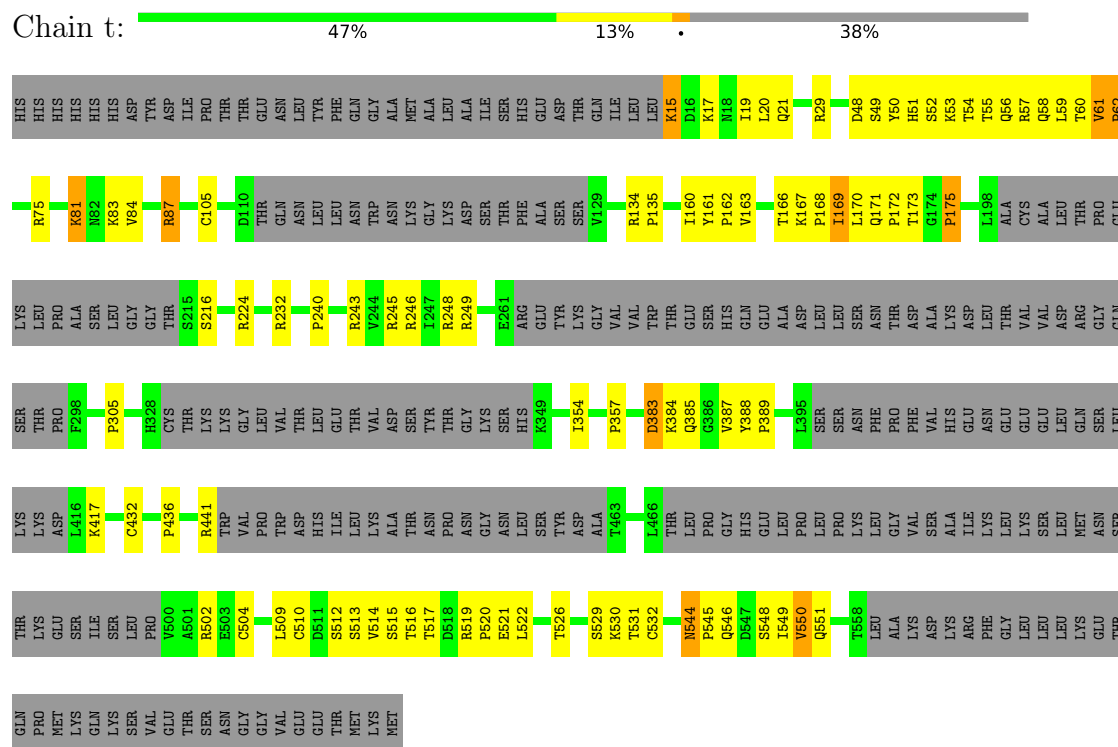
There are no outlier residues recorded for this chain.

- Molecule 45: RIBOSOMAL PROTEIN P2 BETA

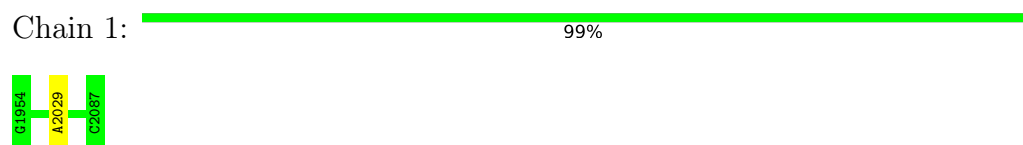
Chain s: 100%

There are no outlier residues recorded for this chain.

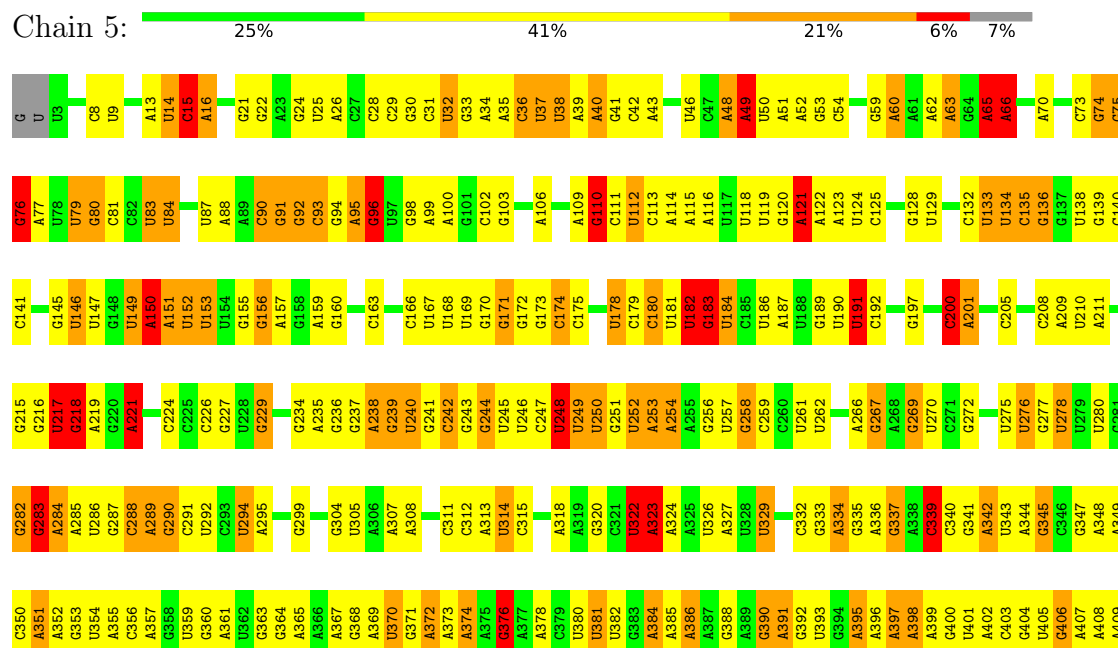
- Molecule 46: PROBABLE METALLOPROTEASE ARX1



- Molecule 47: ES27 OF THE 25S RRNA



- Molecule 48: 25S RIBOSOMAL RNA

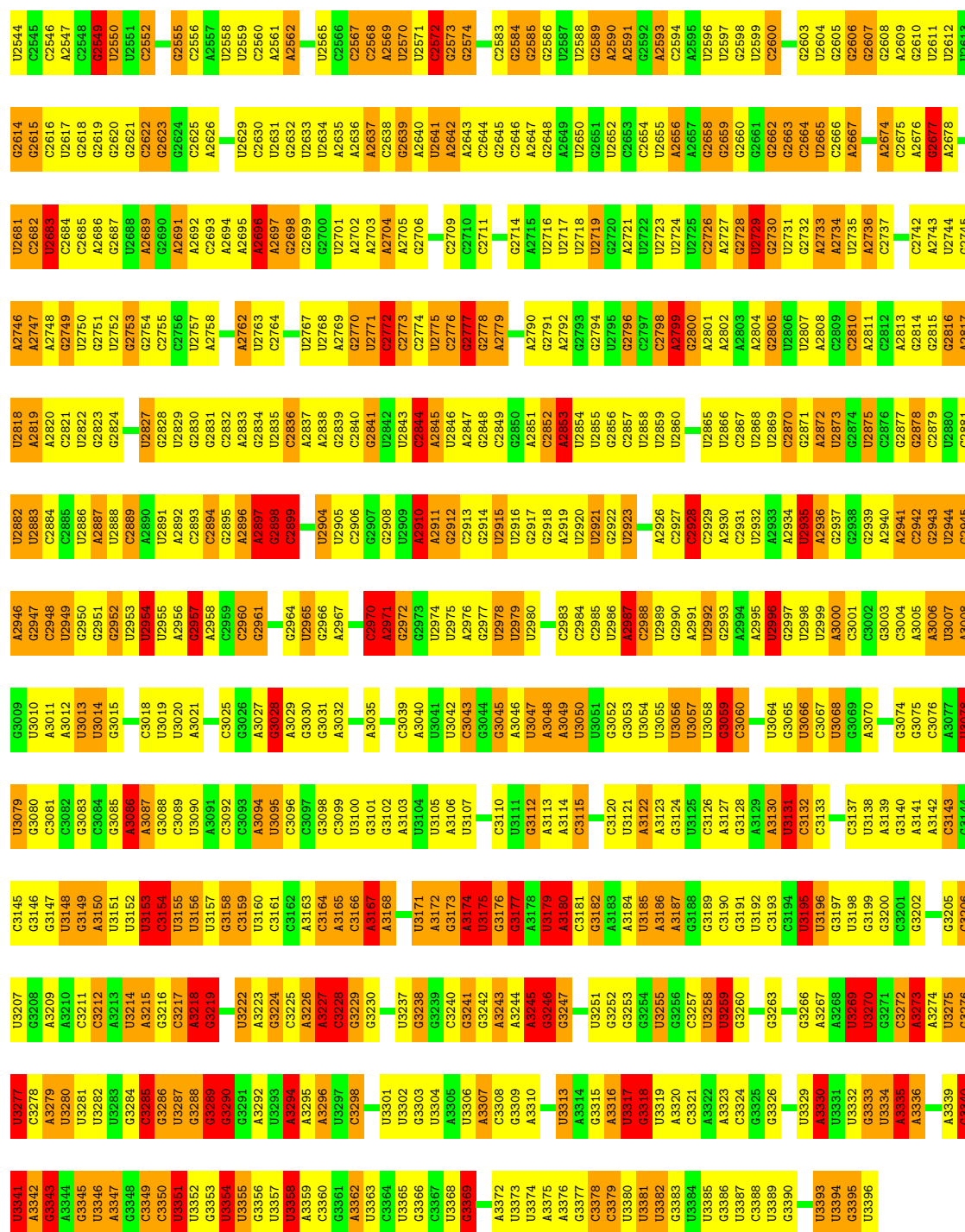






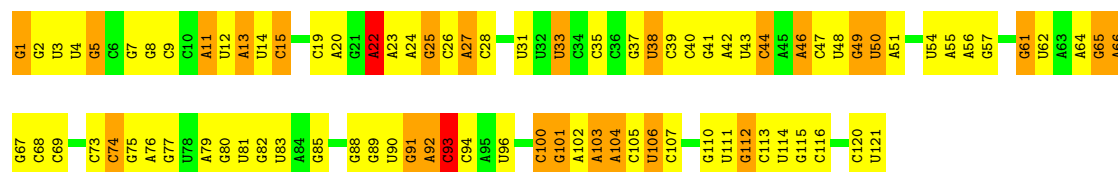




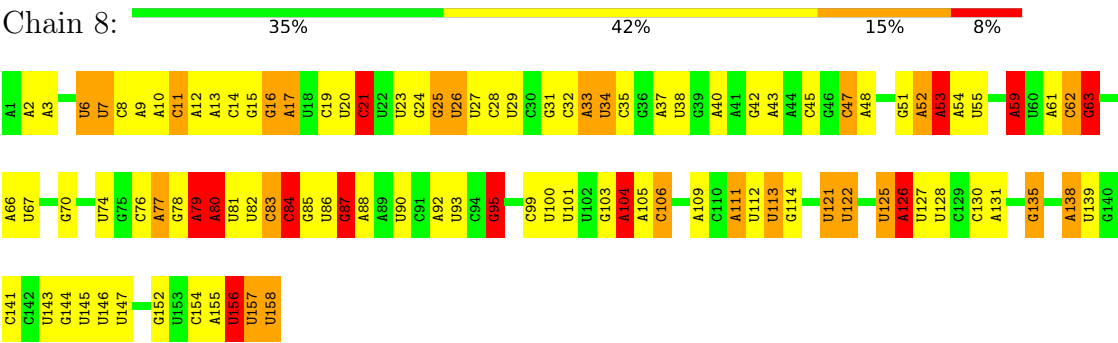


# • Molecule 49: 5S RIBOSOMAL RNA

Chain 7: 28% 50% 21%



● Molecule 50: 5.8S RIBOSOMAL RNA



## 4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	84113	Depositor
Resolution determination method	Not provided	Depositor
CTF correction method	PER FRAME	Depositor
Microscope	FEI TECNAI 20	Depositor
Voltage (kV)	200	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	20	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	4500	Depositor
Magnification	83000	Depositor
Image detector	GATAN ULTRASCAN 4000 (4k x 4k)	Depositor

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z  > 2$	RMSZ	$\# Z  > 2$
1	A	0.87	1/1946 (0.1%)	1.05	4/2614 (0.2%)
10	J	0.81	1/1374 (0.1%)	0.99	3/1842 (0.2%)
12	L	0.82	0/1573	1.04	6/2113 (0.3%)
13	M	0.95	0/1074	1.01	4/1446 (0.3%)
14	N	0.83	0/1757	1.00	6/2354 (0.3%)
15	O	0.98	11/3159 (0.3%)	1.02	25/4205 (0.6%)
16	P	1.05	1/1250 (0.1%)	1.09	5/1683 (0.3%)
17	Q	0.89	1/1465 (0.1%)	1.12	8/1965 (0.4%)
18	R	0.78	1/1538 (0.1%)	0.87	3/2050 (0.1%)
19	S	1.02	0/1481	1.09	7/1990 (0.4%)
2	B	1.02	4/3146 (0.1%)	1.11	14/4228 (0.3%)
20	T	1.01	2/1300 (0.2%)	1.01	1/1743 (0.1%)
21	U	0.56	0/794	0.77	0/1076
22	V	0.98	0/1018	1.09	4/1369 (0.3%)
23	W	0.80	0/1052	0.90	1/1398 (0.1%)
24	X	0.72	0/974	0.86	0/1314
25	Y	0.79	1/1004 (0.1%)	0.98	2/1341 (0.1%)
26	Z	0.55	0/1118	0.83	2/1497 (0.1%)
27	a	0.95	2/1204 (0.2%)	1.14	9/1612 (0.6%)
28	b	0.91	0/473	1.14	1/629 (0.2%)
29	c	0.61	0/775	0.77	0/1040
3	C	0.87	0/2800	1.07	11/3790 (0.3%)
30	d	0.94	2/897 (0.2%)	0.95	1/1205 (0.1%)
31	e	1.04	0/1041	1.27	12/1394 (0.9%)
32	f	1.12	1/868 (0.1%)	1.09	3/1168 (0.3%)
33	g	0.72	0/890	0.92	0/1189
34	h	0.67	0/974	0.79	0/1297
35	i	0.67	0/777	0.85	0/1033
36	j	0.87	0/696	1.04	3/923 (0.3%)
37	k	0.50	0/614	0.70	0/822
38	l	0.90	0/443	1.02	1/588 (0.2%)
39	m	1.08	2/423 (0.5%)	1.13	1/562 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >2	RMSZ	# Z  >2
4	D	0.89	1/2408 (0.0%)	0.96	3/3248 (0.1%)
40	n	0.90	0/234	1.15	1/300 (0.3%)
41	o	0.83	0/860	0.88	1/1136 (0.1%)
42	p	0.86	0/701	0.98	1/934 (0.1%)
43	q	0.54	0/977	0.75	1/1313 (0.1%)
46	t	5.64	18/2985 (0.6%)	4.15	194/4053 (4.8%)
48	5	1.46	609/75414 (0.8%)	1.88	3517/117575 (3.0%)
49	7	1.38	13/2883 (0.5%)	1.80	118/4491 (2.6%)
5	E	0.90	1/1269 (0.1%)	1.00	3/1705 (0.2%)
50	8	1.16	5/3746 (0.1%)	1.70	132/5832 (2.3%)
6	F	0.99	1/1828 (0.1%)	1.04	6/2461 (0.2%)
7	G	0.64	0/1795	0.81	1/2429 (0.0%)
8	H	0.97	2/1539 (0.1%)	1.01	1/2073 (0.0%)
9	I	0.92	1/1758 (0.1%)	1.08	11/2358 (0.5%)
All	All	1.49	681/138295 (0.5%)	1.70	4127/203388 (2.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
15	O	0	2
19	S	0	1
22	V	0	1
25	Y	0	1
26	Z	0	1
27	a	0	3
28	b	0	1
3	C	0	1
4	D	0	1
46	t	0	6
48	5	0	1
5	E	0	1
6	F	0	2
All	All	0	24

All (681) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	t	168	PRO	N-CD	120.75	3.16	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	t	545	PRO	N-CD	120.48	3.16	1.47
46	t	162	PRO	N-CD	120.12	3.16	1.47
46	t	172	PRO	N-CD	118.10	3.13	1.47
46	t	520	PRO	N-CD	117.23	3.12	1.47
46	t	175	PRO	N-CD	55.85	2.26	1.47
46	t	62	PRO	N-CD	53.93	2.23	1.47
46	t	135	PRO	N-CD	53.62	2.23	1.47
46	t	240	PRO	N-CD	52.94	2.21	1.47
46	t	357	PRO	N-CD	52.62	2.21	1.47
46	t	436	PRO	N-CD	51.34	2.19	1.47
46	t	305	PRO	N-CD	47.56	2.14	1.47
46	t	510	CYS	CB-SG	-23.49	1.42	1.82
46	t	105	CYS	CB-SG	-23.43	1.42	1.82
46	t	504	CYS	CB-SG	-23.43	1.42	1.82
46	t	432	CYS	CB-SG	-23.42	1.42	1.82
46	t	532	CYS	CB-SG	-23.40	1.42	1.82
15	O	197[B]	PHE	C-N	-22.01	0.93	1.33
15	O	182[B]	SER	C-N	18.04	1.75	1.34
48	5	1152	G	N9-C8	15.03	1.48	1.37
48	5	1152	G	N9-C4	-14.78	1.26	1.38
48	5	1152	G	C2-N3	-13.34	1.22	1.32
15	O	23[B]	ILE	C-N	-11.01	1.08	1.34
15	O	3[B]	SER	C-N	9.60	1.56	1.34
48	5	3216	G	N7-C5	-9.48	1.33	1.39
48	5	2941	A	N9-C4	-9.21	1.32	1.37
48	5	1434	G	N7-C5	-9.14	1.33	1.39
48	5	2914	G	P-OP2	-9.08	1.33	1.49
48	5	1449	A	N9-C4	-8.94	1.32	1.37
48	5	652	G	N1-C2	-8.88	1.30	1.37
48	5	1450	G	C8-N7	-8.82	1.25	1.30
48	5	953	G	C5-C4	-8.68	1.32	1.38
48	5	367	A	N9-C4	-8.64	1.32	1.37
15	O	80[B]	LEU	C-N	8.56	1.53	1.34
48	5	3088	G	C6-O6	-8.49	1.16	1.24
48	5	2899	C	N3-C4	-8.28	1.28	1.33
48	5	2278	C	C2-O2	-8.27	1.17	1.24
48	5	1887	A	N9-C4	-8.20	1.32	1.37
48	5	1178	G	P-OP2	-8.17	1.35	1.49
48	5	2393	G	C8-N7	-8.15	1.26	1.30
48	5	2191	U	C4-C5	-8.11	1.36	1.43
48	5	1849	C	N3-C4	-8.02	1.28	1.33
48	5	1152	G	C5-C6	-8.01	1.34	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	3245	A	N9-C4	-8.01	1.33	1.37
48	5	2830	G	C6-N1	-8.01	1.33	1.39
48	5	2817	A	P-OP1	-8.00	1.35	1.49
48	5	2726	C	N3-C4	-7.99	1.28	1.33
48	5	1311	G	C5-C4	-7.97	1.32	1.38
48	5	2314	U	N3-C4	7.97	1.45	1.38
48	5	1152	G	N3-C4	-7.96	1.29	1.35
1	A	211	HIS	C-O	7.95	1.38	1.23
48	5	2280	A	N9-C4	-7.94	1.33	1.37
48	5	3216	G	N9-C8	-7.92	1.32	1.37
48	5	3114	A	N9-C4	-7.83	1.33	1.37
48	5	953	G	N7-C5	-7.80	1.34	1.39
48	5	2703	A	N7-C5	-7.75	1.34	1.39
48	5	917	A	N7-C5	-7.74	1.34	1.39
48	5	519	A	N7-C5	-7.74	1.34	1.39
48	5	2945	G	P-O5'	-7.73	1.52	1.59
48	5	2804	A	N9-C4	-7.70	1.33	1.37
48	5	345	G	N1-C2	-7.69	1.31	1.37
48	5	41	G	P-OP1	-7.68	1.35	1.49
48	5	1902	G	C5-C4	-7.68	1.32	1.38
48	5	1434	G	N9-C8	-7.67	1.32	1.37
48	5	1301	A	N7-C5	-7.67	1.34	1.39
20	T	104	GLU	CB-CG	7.64	1.66	1.52
48	5	970	A	N9-C4	-7.63	1.33	1.37
48	5	631	U	C2-N3	-7.60	1.32	1.37
48	5	2272	G	C5-C4	-7.58	1.33	1.38
48	5	3006	A	N3-C4	-7.57	1.30	1.34
15	O	84[B]	ILE	C-N	7.55	1.51	1.34
48	5	2314	U	C2-N3	7.52	1.43	1.37
48	5	960	U	N1-C2	7.52	1.45	1.38
17	Q	171	LYS	CE-NZ	7.50	1.67	1.49
48	5	2335	G	N3-C4	-7.47	1.30	1.35
48	5	1307	G	P-O5'	-7.45	1.52	1.59
48	5	2191	U	C4-O4	-7.44	1.17	1.23
48	5	934	G	P-OP1	-7.41	1.36	1.49
48	5	2134	G	N1-C2	-7.40	1.31	1.37
48	5	1303	A	C5-C4	-7.38	1.33	1.38
48	5	2948	C	N3-C4	-7.37	1.28	1.33
48	5	953	G	N9-C8	-7.35	1.32	1.37
48	5	1902	G	P-OP1	-7.34	1.36	1.49
48	5	345	G	C6-N1	-7.34	1.34	1.39
48	5	3122	A	N3-C4	-7.31	1.30	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1374	G	N1-C2	-7.30	1.31	1.37
48	5	3245	A	C5-C6	-7.30	1.34	1.41
48	5	1515	A	C5-C6	-7.26	1.34	1.41
48	5	2385	G	N9-C4	-7.25	1.32	1.38
48	5	1443	G	C2-N3	-7.24	1.26	1.32
48	5	2919	A	C6-N1	-7.23	1.30	1.35
48	5	2689	A	N3-C4	-7.18	1.30	1.34
48	5	2141	U	P-OP2	-7.17	1.36	1.49
48	5	2949	U	P-OP1	-7.17	1.36	1.49
48	5	1849	C	C2-N3	-7.14	1.30	1.35
48	5	2837	A	C5-C4	-7.13	1.33	1.38
48	5	420	G	N7-C5	-7.13	1.34	1.39
48	5	644	G	N7-C5	-7.13	1.34	1.39
48	5	2364	G	C6-N1	-7.13	1.34	1.39
50	8	20	U	C4-O4	-7.12	1.18	1.23
48	5	1430	U	P-OP1	-7.11	1.36	1.49
48	5	1112	A	N7-C5	-7.11	1.34	1.39
49	7	85	G	N1-C2	-7.10	1.32	1.37
48	5	2943	G	N7-C5	-7.07	1.35	1.39
49	7	96	U	C2-O2	-7.06	1.16	1.22
48	5	1887	A	N7-C5	-7.05	1.35	1.39
48	5	1200	A	N3-C4	-7.01	1.30	1.34
48	5	2361	A	N9-C4	7.00	1.42	1.37
48	5	2364	G	N3-C4	-7.00	1.30	1.35
48	5	2434	U	N3-C4	-7.00	1.32	1.38
48	5	1159	A	N9-C4	-6.98	1.33	1.37
48	5	2335	G	C6-N1	-6.97	1.34	1.39
48	5	1110	U	C4-O4	-6.97	1.18	1.23
48	5	2887	A	P-OP2	-6.96	1.37	1.49
48	5	3180	A	N3-C4	-6.94	1.30	1.34
48	5	2399	A	N9-C4	-6.93	1.33	1.37
48	5	2138	A	N7-C5	-6.92	1.35	1.39
48	5	971	G	C5-C4	-6.89	1.33	1.38
48	5	726	G	C5-C6	-6.89	1.35	1.42
48	5	340	C	P-OP1	-6.88	1.37	1.49
48	5	1042	U	C2-N3	-6.88	1.32	1.37
48	5	2836	C	C4-C5	6.86	1.48	1.43
48	5	334	A	C5-C4	-6.84	1.33	1.38
48	5	1592	G	N1-C2	-6.84	1.32	1.37
48	5	1184	A	N9-C4	-6.84	1.33	1.37
48	5	429	U	C2-N3	-6.83	1.32	1.37
48	5	1178	G	C2-N3	-6.83	1.27	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2336	U	C2-N3	-6.82	1.32	1.37
48	5	986	U	C4-C5	-6.81	1.37	1.43
48	5	1901	A	N7-C5	-6.80	1.35	1.39
49	7	81	U	C4-O4	-6.79	1.18	1.23
48	5	930	U	C4-O4	-6.76	1.18	1.23
48	5	3137	C	N1-C6	6.74	1.41	1.37
48	5	1449	A	P-OP2	-6.74	1.37	1.49
48	5	2911	A	N7-C5	-6.73	1.35	1.39
48	5	2395	G	C5-C4	-6.72	1.33	1.38
48	5	3316	A	N9-C4	-6.70	1.33	1.37
48	5	2636	A	C6-N1	-6.68	1.30	1.35
48	5	1592	G	C6-N1	-6.66	1.34	1.39
48	5	2693	C	C2-N3	-6.65	1.30	1.35
49	7	85	G	C6-N1	-6.65	1.34	1.39
48	5	1319	G	N7-C5	-6.64	1.35	1.39
48	5	1371	G	C6-N1	-6.63	1.34	1.39
48	5	859	G	N1-C2	-6.62	1.32	1.37
48	5	267	G	C8-N7	-6.62	1.26	1.30
48	5	2912	G	N7-C5	-6.62	1.35	1.39
48	5	3006	A	N9-C4	-6.62	1.33	1.37
48	5	3106	A	N7-C5	-6.61	1.35	1.39
48	5	1301	A	C5-C6	-6.61	1.35	1.41
48	5	3362	A	N3-C4	-6.60	1.30	1.34
48	5	3209	A	C5-C4	6.59	1.43	1.38
48	5	2853	A	N9-C4	-6.58	1.33	1.37
15	O	158[B]	ASP	C-N	6.58	1.49	1.34
48	5	847	A	N9-C4	-6.57	1.33	1.37
48	5	1142	G	N7-C5	-6.57	1.35	1.39
15	O	22[B]	THR	C-N	6.56	1.49	1.34
48	5	642	U	N3-C4	-6.56	1.32	1.38
48	5	1849	C	N1-C6	-6.55	1.33	1.37
48	5	1429	G	C6-N1	-6.55	1.34	1.39
48	5	2918	G	N7-C5	-6.52	1.35	1.39
48	5	1833	G	N1-C2	-6.51	1.32	1.37
48	5	91	G	N3-C4	-6.50	1.30	1.35
48	5	1490	A	N7-C5	-6.50	1.35	1.39
48	5	942	U	P-OP1	-6.49	1.38	1.49
48	5	1307	G	C3'-O3'	6.47	1.51	1.42
48	5	1117	G	C5-C4	-6.47	1.33	1.38
48	5	637	C	C2-O2	-6.46	1.18	1.24
48	5	1841	A	N7-C5	-6.45	1.35	1.39
48	5	2323	G	C6-N1	-6.44	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	813	G	N7-C5	-6.43	1.35	1.39
48	5	2987	A	N7-C5	-6.43	1.35	1.39
48	5	342	A	N9-C4	-6.42	1.33	1.37
48	5	1143	A	N9-C4	-6.42	1.33	1.37
48	5	1515	A	C6-N1	-6.42	1.31	1.35
48	5	1487	G	N1-C2	-6.41	1.32	1.37
48	5	2128	C	N1-C6	-6.40	1.33	1.37
48	5	1370	G	N1-C2	-6.39	1.32	1.37
48	5	2123	G	C5-C4	-6.39	1.33	1.38
48	5	420	G	C5-C4	-6.38	1.33	1.38
48	5	802	C	N1-C6	-6.37	1.33	1.37
48	5	2816	G	C5-C4	-6.33	1.33	1.38
48	5	2147	A	C5-C6	-6.32	1.35	1.41
48	5	1406	A	N3-C4	-6.29	1.31	1.34
48	5	1913	A	C5-C6	-6.28	1.35	1.41
48	5	953	G	N9-C4	-6.28	1.32	1.38
20	T	32	LYS	CD-CE	6.28	1.67	1.51
48	5	2291	A	N3-C4	-6.26	1.31	1.34
48	5	1902	G	N9-C8	-6.26	1.33	1.37
48	5	3006	A	N7-C5	-6.25	1.35	1.39
48	5	2937	G	N9-C8	-6.25	1.33	1.37
48	5	3102	G	C6-N1	-6.25	1.35	1.39
48	5	3172	A	C8-N7	-6.23	1.27	1.31
16	P	66	SER	C-O	6.23	1.35	1.23
48	5	2856	G	N9-C8	-6.23	1.33	1.37
48	5	2754	G	P-OP1	-6.23	1.38	1.49
48	5	2905	U	C2-N3	-6.22	1.33	1.37
48	5	421	G	C6-N1	-6.22	1.35	1.39
48	5	2314	U	C4-O4	6.22	1.28	1.23
48	5	2858	U	N3-C4	-6.22	1.32	1.38
48	5	1487	G	C6-N1	-6.21	1.35	1.39
49	7	96	U	C4-O4	-6.21	1.18	1.23
48	5	876	A	N3-C4	-6.21	1.31	1.34
48	5	1851	G	N9-C8	-6.21	1.33	1.37
48	5	3182	G	C6-N1	-6.20	1.35	1.39
48	5	1797	A	N7-C5	-6.20	1.35	1.39
48	5	1449	A	C5-C6	-6.20	1.35	1.41
48	5	2737	C	N1-C6	-6.20	1.33	1.37
49	7	91	G	N9-C8	-6.19	1.33	1.37
48	5	2848	G	N7-C5	-6.19	1.35	1.39
48	5	434	U	C2-N3	-6.18	1.33	1.37
48	5	659	G	N7-C5	-6.18	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2823	G	N7-C5	-6.18	1.35	1.39
2	B	367	LYS	CE-NZ	6.18	1.64	1.49
48	5	2194	G	C5-C4	-6.18	1.34	1.38
48	5	1835	A	P-OP1	-6.17	1.38	1.49
48	5	1369	A	P-OP2	-6.16	1.38	1.49
48	5	2733	A	N9-C4	-6.15	1.34	1.37
48	5	1847	A	N9-C4	-6.14	1.34	1.37
5	E	90	LYS	CD-CE	6.13	1.66	1.51
48	5	795	G	C5-C4	-6.12	1.34	1.38
48	5	872	U	C4-O4	-6.12	1.18	1.23
48	5	649	A	C5-C6	-6.12	1.35	1.41
48	5	2881	C	C2-O2	-6.12	1.19	1.24
48	5	1169	A	N9-C4	-6.12	1.34	1.37
27	a	24	LYS	CE-NZ	6.11	1.64	1.49
48	5	2830	G	N3-C4	-6.11	1.31	1.35
48	5	218	G	P-O5'	-6.09	1.53	1.59
48	5	363	G	C5-C4	-6.08	1.34	1.38
48	5	3008	A	N9-C4	-6.08	1.34	1.37
48	5	1490	A	C5-C6	-6.07	1.35	1.41
48	5	3005	A	C6-N1	-6.06	1.31	1.35
48	5	1152	G	C8-N7	6.05	1.34	1.30
48	5	2857	C	C4-N4	-6.05	1.28	1.33
48	5	2975	U	C4-O4	-6.04	1.18	1.23
48	5	2980	U	C2-O2	-6.04	1.17	1.22
48	5	2706	G	C5-C4	-6.04	1.34	1.38
48	5	2704	A	N7-C5	-6.04	1.35	1.39
48	5	2948	C	C4-N4	-6.04	1.28	1.33
2	B	262	TRP	CB-CG	-6.03	1.39	1.50
48	5	3102	G	N1-C2	-6.03	1.32	1.37
48	5	2372	A	N3-C4	-6.03	1.31	1.34
48	5	884	A	C8-N7	6.03	1.35	1.31
48	5	2341	A	N3-C4	6.03	1.38	1.34
48	5	1454	A	C6-N6	-6.02	1.29	1.33
48	5	859	G	C6-N1	-6.01	1.35	1.39
48	5	2915	U	C2-O2	-6.00	1.17	1.22
48	5	2214	A	P-OP2	-6.00	1.38	1.49
48	5	2946	A	C6-N1	-6.00	1.31	1.35
48	5	2377	G	N9-C8	-5.98	1.33	1.37
48	5	2188	A	N3-C4	-5.98	1.31	1.34
48	5	1332	A	C5-C4	-5.97	1.34	1.38
48	5	1174	G	C5-C4	-5.97	1.34	1.38
48	5	348	A	P-OP1	-5.97	1.38	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1504	A	C6-N1	-5.96	1.31	1.35
48	5	3308	C	N3-C4	-5.96	1.29	1.33
48	5	3010	U	C2-N3	-5.96	1.33	1.37
48	5	647	A	N3-C4	-5.96	1.31	1.34
48	5	744	A	N9-C4	-5.95	1.34	1.37
48	5	1149	G	C5-C4	-5.95	1.34	1.38
48	5	3335	A	N9-C4	-5.95	1.34	1.37
48	5	931	C	C4-N4	-5.94	1.28	1.33
48	5	1152	G	N1-C2	5.94	1.42	1.37
48	5	1837	U	P-OP2	-5.94	1.38	1.49
48	5	1429	G	N9-C8	-5.93	1.33	1.37
48	5	2730	G	N9-C4	-5.93	1.33	1.38
49	7	89	G	C5-C4	-5.92	1.34	1.38
48	5	3227	A	N3-C4	-5.91	1.31	1.34
48	5	345	G	C5-C4	-5.91	1.34	1.38
48	5	857	G	C6-O6	-5.91	1.18	1.24
48	5	922	U	P-OP2	-5.90	1.39	1.49
48	5	3047	U	C2-N3	-5.90	1.33	1.37
48	5	2524	A	C5-C4	5.89	1.42	1.38
48	5	2278	C	N1-C6	5.88	1.40	1.37
48	5	784	A	C5-C6	-5.88	1.35	1.41
48	5	3005	A	N7-C5	-5.87	1.35	1.39
48	5	2858	U	C2-N3	-5.85	1.33	1.37
50	8	111	A	N9-C4	-5.85	1.34	1.37
48	5	2335	G	C5-C4	-5.85	1.34	1.38
48	5	2977	G	C6-N1	-5.84	1.35	1.39
48	5	1156	C	C4-N4	-5.84	1.28	1.33
48	5	3000	A	N9-C4	-5.84	1.34	1.37
48	5	416	A	N7-C5	-5.84	1.35	1.39
48	5	2412	G	N1-C2	-5.84	1.33	1.37
48	5	1172	G	N1-C2	-5.83	1.33	1.37
48	5	3245	A	N7-C5	-5.83	1.35	1.39
48	5	577	C	N1-C6	-5.83	1.33	1.37
48	5	1203	A	C5-C6	-5.83	1.35	1.41
48	5	2884	C	C2-O2	-5.82	1.19	1.24
48	5	1138	U	C4-O4	-5.82	1.19	1.23
48	5	1213	G	N1-C2	-5.81	1.33	1.37
48	5	518	G	C5-C4	-5.81	1.34	1.38
48	5	1903	U	C4-O4	5.80	1.28	1.23
48	5	369	A	C6-N6	-5.80	1.29	1.33
48	5	2971	A	N9-C4	5.80	1.41	1.37
48	5	868	C	N1-C6	-5.80	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2732	G	C6-N1	-5.79	1.35	1.39
48	5	2367	A	N9-C4	5.79	1.41	1.37
48	5	2401	A	N9-C4	5.79	1.41	1.37
48	5	2612	U	C2-N3	-5.79	1.33	1.37
48	5	1149	G	N9-C8	-5.79	1.33	1.37
48	5	3095	U	C4-O4	-5.79	1.19	1.23
48	5	2915	U	C2-N3	-5.79	1.33	1.37
48	5	1332	A	C6-N1	-5.78	1.31	1.35
48	5	339	C	N3-C4	-5.78	1.29	1.33
48	5	1449	A	N7-C5	-5.78	1.35	1.39
48	5	1305	U	N1-C6	-5.78	1.32	1.38
48	5	2860	U	C4-O4	5.77	1.28	1.23
48	5	1365	G	C6-N1	-5.76	1.35	1.39
48	5	805	G	N7-C5	5.76	1.42	1.39
48	5	2375	G	C6-N1	-5.76	1.35	1.39
48	5	1308	A	N9-C8	-5.75	1.33	1.37
48	5	1849	C	C4-C5	-5.75	1.38	1.43
48	5	1477	A	N3-C4	-5.74	1.31	1.34
48	5	1127	G	C5-C4	-5.74	1.34	1.38
48	5	100	A	N9-C4	-5.74	1.34	1.37
48	5	2921	U	C4-O4	-5.73	1.19	1.23
48	5	1208	U	N3-C4	-5.73	1.33	1.38
48	5	1145	G	N3-C4	-5.73	1.31	1.35
15	O	40[B]	ALA	C-N	-5.73	1.20	1.34
48	5	200	C	N3-C4	-5.72	1.29	1.33
48	5	953	G	N3-C4	-5.72	1.31	1.35
48	5	1112	A	C6-N1	-5.72	1.31	1.35
48	5	2957	G	C8-N7	-5.72	1.27	1.30
48	5	2960	C	C4-N4	-5.72	1.28	1.33
48	5	2888	U	C2-N3	-5.71	1.33	1.37
48	5	2892	A	C6-N1	-5.71	1.31	1.35
48	5	1898	G	C5-C4	-5.71	1.34	1.38
48	5	2350	C	N1-C6	-5.70	1.33	1.37
48	5	2382	G	N7-C5	-5.70	1.35	1.39
48	5	876	A	N1-C2	-5.70	1.29	1.34
48	5	652	G	C5-C4	-5.70	1.34	1.38
48	5	883	A	P-OP1	5.69	1.58	1.49
48	5	1370	G	N9-C8	-5.69	1.33	1.37
48	5	326	U	C4-O4	-5.69	1.19	1.23
48	5	657	A	N3-C4	-5.69	1.31	1.34
48	5	428	A	N7-C5	-5.69	1.35	1.39
48	5	984	G	N7-C5	-5.69	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1910	A	C5-C4	-5.69	1.34	1.38
48	5	559	A	N7-C5	-5.68	1.35	1.39
48	5	1450	G	C5-C4	-5.67	1.34	1.38
48	5	657	A	N9-C4	-5.66	1.34	1.37
49	7	39	C	N3-C4	-5.66	1.29	1.33
48	5	1189	C	N1-C6	-5.66	1.33	1.37
48	5	1414	G	C6-N1	-5.64	1.35	1.39
48	5	2134	G	C6-N1	-5.64	1.35	1.39
48	5	2147	A	N7-C5	-5.64	1.35	1.39
25	Y	38	GLU	CG-CD	5.64	1.60	1.51
48	5	2888	U	C4-C5	-5.64	1.38	1.43
50	8	54	A	N9-C4	-5.64	1.34	1.37
48	5	39	A	N3-C4	-5.63	1.31	1.34
48	5	1462	A	N9-C4	-5.63	1.34	1.37
48	5	3184	A	N9-C4	-5.63	1.34	1.37
48	5	3218	A	N9-C4	-5.62	1.34	1.37
48	5	2340	U	C4-O4	-5.62	1.19	1.23
48	5	1043	C	N3-C4	-5.62	1.30	1.33
48	5	1320	C	C4-C5	-5.62	1.38	1.43
48	5	2323	G	N1-C2	-5.61	1.33	1.37
48	5	2646	C	N1-C6	-5.61	1.33	1.37
15	O	4[B]	GLN	C-N	-5.61	1.23	1.34
48	5	640	U	C2-N3	-5.61	1.33	1.37
48	5	924	G	C2-N3	-5.61	1.28	1.32
48	5	1434	G	C5-C4	-5.60	1.34	1.38
48	5	2647	A	N3-C4	-5.60	1.31	1.34
48	5	1370	G	C6-N1	-5.60	1.35	1.39
48	5	2810	C	N1-C6	-5.59	1.33	1.37
48	5	1330	A	N3-C4	-5.59	1.31	1.34
48	5	3088	G	N7-C5	-5.59	1.35	1.39
48	5	817	A	C4'-C3'	-5.58	1.47	1.52
48	5	3039	C	N1-C6	-5.58	1.33	1.37
48	5	2148	U	C4-O4	-5.58	1.19	1.23
48	5	1099	A	C6-N1	-5.58	1.31	1.35
48	5	2302	G	N1-C2	-5.57	1.33	1.37
48	5	344	A	N9-C8	-5.57	1.33	1.37
48	5	949	C	N3-C4	-5.57	1.30	1.33
48	5	360	G	N9-C8	-5.56	1.33	1.37
48	5	900	G	C6-N1	-5.56	1.35	1.39
48	5	1432	C	N1-C6	-5.56	1.33	1.37
48	5	3088	G	C5-C6	-5.55	1.36	1.42
48	5	2609	A	C5-C4	-5.55	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	899	U	C4-O4	-5.55	1.19	1.23
48	5	1413	G	C6-N1	-5.55	1.35	1.39
48	5	2626	A	N9-C8	-5.55	1.33	1.37
48	5	1174	G	C8-N7	-5.54	1.27	1.30
48	5	1338	C	N1-C6	-5.54	1.33	1.37
48	5	1443	G	N3-C4	-5.54	1.31	1.35
48	5	1309	U	N1-C2	-5.54	1.33	1.38
48	5	2419	A	C6-N1	-5.54	1.31	1.35
48	5	2860	U	P-OP2	-5.54	1.39	1.49
48	5	2301	U	C2-O2	-5.54	1.17	1.22
48	5	1319	G	N9-C8	-5.53	1.33	1.37
48	5	2824	G	N7-C5	-5.53	1.35	1.39
48	5	2361	A	N7-C5	-5.53	1.35	1.39
48	5	421	G	N1-C2	-5.53	1.33	1.37
48	5	3374	U	C4-O4	-5.52	1.19	1.23
48	5	891	G	N9-C4	-5.52	1.33	1.38
48	5	987	U	C2-O2	-5.51	1.17	1.22
48	5	2717	U	C2-N3	-5.51	1.33	1.37
48	5	2941	A	N9-C8	-5.51	1.33	1.37
48	5	2391	G	C6-O6	-5.51	1.19	1.24
48	5	1130	A	N1-C2	-5.50	1.29	1.34
48	5	889	U	C4-O4	-5.50	1.19	1.23
48	5	2336	U	C2-O2	-5.50	1.17	1.22
2	B	349	LYS	CD-CE	5.50	1.65	1.51
48	5	2920	U	P-OP1	-5.50	1.39	1.49
48	5	1875	G	C6-N1	-5.50	1.35	1.39
48	5	354	U	C2-N3	-5.50	1.33	1.37
48	5	1433	A	N7-C5	-5.49	1.35	1.39
48	5	2397	A	C5-C6	5.49	1.46	1.41
48	5	2908	G	C2-N3	-5.49	1.28	1.32
48	5	1901	A	N9-C8	-5.49	1.33	1.37
48	5	2823	G	C5-C4	-5.49	1.34	1.38
48	5	706	A	C5-C4	-5.49	1.34	1.38
48	5	1301	A	N9-C8	-5.49	1.33	1.37
48	5	1086	C	C4-C5	-5.48	1.38	1.43
48	5	2164	A	N7-C5	-5.48	1.35	1.39
48	5	1911	A	C5-C6	-5.48	1.36	1.41
48	5	2611	U	P-OP1	-5.48	1.39	1.49
48	5	1195	A	N1-C2	-5.47	1.29	1.34
48	5	1320	C	C4-N4	-5.47	1.29	1.33
48	5	2775	U	C2-N3	-5.47	1.33	1.37
48	5	508	U	C5-C6	-5.47	1.29	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	3013	U	C2-N3	-5.47	1.33	1.37
48	5	2932	U	C2-N3	-5.47	1.33	1.37
48	5	824	C	N3-C4	-5.46	1.30	1.33
48	5	2419	A	P-O5'	5.46	1.65	1.59
48	5	2834	G	C2-N3	-5.46	1.28	1.32
48	5	3096	C	N1-C6	-5.46	1.33	1.37
48	5	420	G	N9-C8	-5.46	1.34	1.37
48	5	3107	U	C2-N3	-5.46	1.33	1.37
48	5	2417	U	C4-O4	5.45	1.28	1.23
48	5	784	A	N7-C5	-5.45	1.35	1.39
48	5	2122	G	C5-C4	-5.44	1.34	1.38
48	5	2987	A	C6-N1	-5.44	1.31	1.35
48	5	834	U	C4-O4	-5.44	1.19	1.23
48	5	631	U	N3-C4	-5.44	1.33	1.38
48	5	1492	G	C2-N3	5.43	1.37	1.32
48	5	36	C	N1-C2	-5.43	1.34	1.40
48	5	1845	G	C5-C4	-5.43	1.34	1.38
48	5	2904	U	C2-N3	-5.43	1.33	1.37
48	5	1147	G	N9-C8	-5.43	1.34	1.37
48	5	522	A	P-O5'	-5.43	1.54	1.59
48	5	365	A	N7-C5	-5.42	1.35	1.39
48	5	635	G	P-OP2	-5.42	1.39	1.49
48	5	2128	C	C4-N4	-5.42	1.29	1.33
48	5	49	A	C5-C4	-5.42	1.34	1.38
49	7	5	G	N9-C8	-5.42	1.34	1.37
48	5	2204	C	N3-C4	-5.41	1.30	1.33
48	5	831	G	N7-C5	-5.41	1.36	1.39
48	5	1324	U	C2-N3	-5.41	1.33	1.37
48	5	3052	G	N1-C2	-5.41	1.33	1.37
48	5	895	A	N3-C4	-5.41	1.31	1.34
48	5	417	A	N7-C5	-5.41	1.36	1.39
48	5	1177	G	N7-C5	-5.41	1.36	1.39
48	5	2198	A	N9-C4	-5.41	1.34	1.37
48	5	3273	A	N9-C4	-5.41	1.34	1.37
48	5	2693	C	N1-C6	-5.40	1.33	1.37
48	5	2974	U	C2-N3	-5.40	1.33	1.37
49	7	88	G	N1-C2	-5.40	1.33	1.37
48	5	2336	U	N3-C4	-5.39	1.33	1.38
49	7	66	A	P-OP2	-5.39	1.39	1.49
48	5	39	A	C5-C4	-5.39	1.34	1.38
48	5	2937	G	C5-C4	-5.38	1.34	1.38
48	5	363	G	N3-C4	-5.38	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1327	C	N3-C4	-5.38	1.30	1.33
48	5	1908	A	C6-N1	-5.38	1.31	1.35
48	5	1338	C	C4-C5	-5.38	1.38	1.43
48	5	2342	U	C2-N3	-5.37	1.33	1.37
48	5	864	G	C5-C4	-5.37	1.34	1.38
48	5	990	U	C2-N3	-5.37	1.33	1.37
48	5	505	G	N3-C4	-5.37	1.31	1.35
48	5	2744	U	C2-N3	-5.37	1.33	1.37
50	8	25	G	N1-C2	-5.37	1.33	1.37
48	5	755	A	C6-N1	-5.36	1.31	1.35
48	5	1895	A	N3-C4	-5.36	1.31	1.34
48	5	806	A	P-OP2	-5.36	1.39	1.49
48	5	2643	A	C6-N1	5.35	1.39	1.35
48	5	1833	G	C6-N1	-5.35	1.35	1.39
48	5	2191	U	N3-C4	-5.35	1.33	1.38
48	5	1851	G	C8-N7	-5.35	1.27	1.30
48	5	3114	A	N3-C4	-5.35	1.31	1.34
48	5	1135	A	N9-C8	-5.35	1.33	1.37
48	5	1443	G	N1-C2	-5.35	1.33	1.37
48	5	956	U	N3-C4	-5.35	1.33	1.38
48	5	2730	G	N7-C5	-5.34	1.36	1.39
48	5	2395	G	C6-N1	-5.34	1.35	1.39
48	5	3115	C	N3-C4	-5.34	1.30	1.33
48	5	666	A	N3-C4	-5.33	1.31	1.34
48	5	1415	U	C2-O2	-5.33	1.17	1.22
48	5	1468	A	N7-C5	-5.33	1.36	1.39
48	5	2341	A	N9-C8	-5.33	1.33	1.37
48	5	41	G	N9-C4	-5.33	1.33	1.38
48	5	1477	A	C6-N1	-5.33	1.31	1.35
48	5	2912	G	N9-C8	-5.33	1.34	1.37
48	5	3039	C	C4-C5	-5.33	1.38	1.43
48	5	290	G	C6-N1	-5.32	1.35	1.39
2	B	287	LYS	CD-CE	5.32	1.64	1.51
48	5	95	A	C5-C4	-5.32	1.35	1.38
48	5	2365	C	N3-C4	-5.32	1.30	1.33
48	5	3307	A	C2-N3	-5.32	1.28	1.33
48	5	1888	U	N1-C6	-5.32	1.33	1.38
48	5	2734	A	N9-C4	-5.31	1.34	1.37
48	5	1404	G	N9-C8	-5.31	1.34	1.37
48	5	2619	G	C6-O6	-5.31	1.19	1.24
9	I	96	VAL	CB-CG2	-5.30	1.41	1.52
48	5	2922	G	C6-O6	-5.30	1.19	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1190	A	C6-N1	-5.30	1.31	1.35
48	5	2697	A	N9-C4	5.30	1.41	1.37
48	5	903	U	C2-N3	-5.30	1.34	1.37
48	5	1209	G	C2-N3	-5.29	1.28	1.32
48	5	1296	C	N3-C4	-5.29	1.30	1.33
48	5	3372	A	N9-C4	5.29	1.41	1.37
48	5	693	A	N9-C4	-5.29	1.34	1.37
48	5	818	C	P-OP1	-5.29	1.40	1.49
48	5	1117	G	N7-C5	-5.29	1.36	1.39
48	5	3179	U	C4-O4	-5.29	1.19	1.23
27	a	15	VAL	C-O	5.28	1.33	1.23
48	5	1362	G	C6-N1	-5.28	1.35	1.39
48	5	2434	U	C2-N3	-5.28	1.34	1.37
48	5	2272	G	C6-N1	-5.27	1.35	1.39
48	5	2734	A	N3-C4	-5.27	1.31	1.34
48	5	436	A	C5-C4	5.27	1.42	1.38
48	5	609	G	N3-C4	-5.27	1.31	1.35
48	5	2372	A	C6-N1	-5.27	1.31	1.35
48	5	2376	G	C6-O6	-5.27	1.19	1.24
48	5	2632	G	C8-N7	5.27	1.34	1.30
48	5	1838	G	C5-C4	-5.27	1.34	1.38
48	5	1171	G	N7-C5	-5.26	1.36	1.39
15	O	196[B]	SER	C-N	-5.26	1.22	1.34
48	5	2620	G	N1-C2	-5.26	1.33	1.37
48	5	912	G	N3-C4	5.26	1.39	1.35
48	5	1840	U	C2-N3	-5.25	1.34	1.37
48	5	2414	G	C5-C4	-5.25	1.34	1.38
48	5	658	G	N3-C4	-5.25	1.31	1.35
48	5	1116	G	N9-C8	-5.25	1.34	1.37
48	5	1902	G	C6-N1	-5.25	1.35	1.39
48	5	1515	A	N7-C5	-5.24	1.36	1.39
48	5	3216	G	C5-C4	-5.24	1.34	1.38
48	5	1131	G	N7-C5	-5.24	1.36	1.39
48	5	2318	U	N3-C4	-5.24	1.33	1.38
6	F	131	GLU	CD-OE2	5.24	1.31	1.25
48	5	1114	U	C2-N3	-5.24	1.34	1.37
48	5	3112	G	C5-C4	-5.23	1.34	1.38
48	5	649	A	N7-C5	-5.23	1.36	1.39
48	5	2934	A	C6-N1	-5.23	1.31	1.35
48	5	1151	U	C4-O4	-5.23	1.19	1.23
48	5	3065	G	C6-N1	-5.22	1.35	1.39
39	m	79	GLU	CD-OE1	5.22	1.31	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	1832	C	N1-C6	-5.22	1.34	1.37
48	5	2617	U	C4-O4	-5.22	1.19	1.23
48	5	994	G	C5-C4	-5.21	1.34	1.38
48	5	1902	G	C8-N7	-5.21	1.27	1.30
48	5	70	A	N7-C5	-5.21	1.36	1.39
48	5	1115	G	N7-C5	-5.21	1.36	1.39
48	5	645	A	C8-N7	-5.21	1.27	1.31
48	5	52	A	N7-C5	-5.20	1.36	1.39
48	5	1056	U	C2-N3	5.20	1.41	1.37
48	5	1117	G	C8-N7	-5.20	1.27	1.30
48	5	1409	G	C6-N1	-5.20	1.35	1.39
46	t	388	TYR	C-N	5.20	1.44	1.34
48	5	1797	A	C5-C4	-5.20	1.35	1.38
48	5	1151	U	C2-N3	-5.20	1.34	1.37
48	5	2214	A	N9-C4	-5.20	1.34	1.37
48	5	917	A	N3-C4	-5.20	1.31	1.34
48	5	1425	U	C2-N3	-5.20	1.34	1.37
48	5	1157	G	N9-C8	-5.20	1.34	1.37
48	5	433	A	N9-C4	-5.19	1.34	1.37
48	5	1117	G	C6-O6	-5.19	1.19	1.24
48	5	2327	U	N3-C4	-5.18	1.33	1.38
48	5	925	A	N7-C5	-5.18	1.36	1.39
48	5	835	G	C5-C4	-5.18	1.34	1.38
48	5	3000	A	C5-C4	-5.18	1.35	1.38
48	5	3032	A	N7-C5	-5.18	1.36	1.39
48	5	627	U	C2-N3	-5.18	1.34	1.37
48	5	1326	A	C5-C4	-5.17	1.35	1.38
48	5	798	G	C6-O6	-5.17	1.19	1.24
10	J	8	PRO	CB-CG	5.17	1.75	1.50
48	5	658	G	N9-C4	-5.17	1.33	1.38
48	5	2375	G	P-OP2	-5.17	1.40	1.49
48	5	859	G	C2-N3	-5.17	1.28	1.32
48	5	884	A	C5-C6	-5.17	1.36	1.41
48	5	1607	U	C3'-O3'	5.16	1.49	1.42
48	5	2936	A	C4'-C3'	-5.16	1.47	1.52
48	5	2993	G	N7-C5	-5.16	1.36	1.39
48	5	2693	C	N3-C4	-5.16	1.30	1.33
48	5	345	G	C6-O6	-5.16	1.19	1.24
48	5	1170	A	C8-N7	-5.16	1.27	1.31
48	5	1184	A	N3-C4	-5.16	1.31	1.34
48	5	49	A	N3-C4	-5.15	1.31	1.34
48	5	282	G	C2-N3	-5.15	1.28	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	H	82	VAL	CB-CG2	-5.15	1.42	1.52
48	5	284	A	N9-C4	5.15	1.41	1.37
48	5	656	A	O3'-P	-5.15	1.54	1.61
48	5	3316	A	N3-C4	-5.15	1.31	1.34
48	5	1154	A	C5-C4	-5.14	1.35	1.38
48	5	1311	G	N7-C5	-5.14	1.36	1.39
48	5	984	G	N9-C8	-5.14	1.34	1.37
48	5	2706	G	C8-N7	-5.14	1.27	1.30
4	D	95	TRP	CG-CD1	5.14	1.44	1.36
48	5	2659	G	N1-C2	-5.14	1.33	1.37
48	5	652	G	N7-C5	-5.13	1.36	1.39
48	5	2692	A	N7-C5	-5.13	1.36	1.39
48	5	2859	U	C2-N3	-5.13	1.34	1.37
48	5	2912	G	C5-C4	-5.13	1.34	1.38
48	5	2163	C	N3-C4	-5.13	1.30	1.33
48	5	3070	A	C6-N1	-5.13	1.31	1.35
48	5	1188	U	C2-N3	-5.13	1.34	1.37
30	d	61	LYS	CD-CE	5.12	1.64	1.51
48	5	2858	U	C2-O2	-5.12	1.17	1.22
48	5	404	G	N9-C8	-5.12	1.34	1.37
48	5	1179	A	P-OP2	-5.12	1.40	1.49
48	5	934	G	C5-C4	-5.12	1.34	1.38
48	5	1208	U	C2-N3	-5.12	1.34	1.37
48	5	2865	U	N1-C2	5.11	1.43	1.38
48	5	2172	A	N9-C4	-5.11	1.34	1.37
48	5	2882	U	C2-O2	-5.11	1.17	1.22
48	5	891	G	N3-C4	-5.11	1.31	1.35
48	5	1123	U	N3-C4	-5.11	1.33	1.38
48	5	1898	G	N9-C8	-5.10	1.34	1.37
48	5	2912	G	C8-N7	-5.10	1.27	1.30
48	5	984	G	C6-N1	-5.09	1.35	1.39
48	5	2837	A	N3-C4	-5.09	1.31	1.34
48	5	1143	A	N3-C4	-5.09	1.31	1.34
48	5	34	A	N3-C4	-5.09	1.31	1.34
48	5	2190	U	C2-O2	-5.09	1.17	1.22
48	5	1851	G	C5-C4	-5.09	1.34	1.38
48	5	1886	A	N3-C4	-5.09	1.31	1.34
48	5	2634	U	N3-C4	5.08	1.43	1.38
48	5	397	A	N3-C4	-5.08	1.31	1.34
48	5	1188	U	C5-C6	-5.08	1.29	1.34
48	5	2859	U	N3-C4	-5.08	1.33	1.38
48	5	999	G	C5-C4	-5.08	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2141	U	P-OP1	-5.08	1.40	1.49
50	8	21	C	N1-C6	-5.08	1.34	1.37
48	5	1049	C	C4-N4	-5.07	1.29	1.33
48	5	2302	G	C6-N1	-5.07	1.35	1.39
48	5	103	G	C8-N7	5.07	1.33	1.30
48	5	2958	A	N9-C4	-5.07	1.34	1.37
48	5	1145	G	C2-N3	-5.07	1.28	1.32
48	5	1388	U	C2-O2	-5.06	1.17	1.22
48	5	877	C	C4-N4	-5.06	1.29	1.33
48	5	1338	C	C4-N4	-5.06	1.29	1.33
48	5	3122	A	N7-C5	-5.06	1.36	1.39
48	5	2303	A	N3-C4	-5.06	1.31	1.34
48	5	2632	G	N7-C5	5.06	1.42	1.39
48	5	2666	C	N1-C6	-5.06	1.34	1.37
48	5	2147	A	C5-C4	-5.05	1.35	1.38
48	5	2930	A	N3-C4	5.05	1.37	1.34
39	m	79	GLU	CD-OE2	5.05	1.31	1.25
48	5	585	A	N3-C4	-5.05	1.31	1.34
48	5	1433	A	N9-C8	-5.05	1.33	1.37
48	5	38	U	O3'-P	-5.05	1.55	1.61
48	5	1791	C	N1-C6	-5.04	1.34	1.37
48	5	1919	G	C6-N1	-5.04	1.36	1.39
48	5	3245	A	N1-C2	5.04	1.38	1.34
48	5	333	G	C6-N1	-5.04	1.36	1.39
48	5	1307	G	N7-C5	-5.04	1.36	1.39
49	7	88	G	C6-N1	-5.04	1.36	1.39
48	5	2977	G	N1-C2	-5.04	1.33	1.37
48	5	3172	A	N9-C8	-5.04	1.33	1.37
8	H	110	LYS	CD-CE	5.04	1.63	1.51
48	5	2717	U	C2-O2	-5.04	1.17	1.22
48	5	2928	C	C4'-C3'	-5.03	1.47	1.52
48	5	2640	A	N9-C4	-5.03	1.34	1.37
48	5	2323	G	N3-C4	-5.03	1.31	1.35
48	5	2372	A	C3'-O3'	5.03	1.49	1.42
32	f	91	ALA	N-CA	5.03	1.56	1.46
48	5	2243	A	N3-C4	-5.03	1.31	1.34
48	5	2291	A	N9-C4	-5.03	1.34	1.37
48	5	2366	C	C2-N3	5.03	1.39	1.35
48	5	2620	G	C5-C4	-5.03	1.34	1.38
49	7	94	C	C4-C5	-5.02	1.39	1.43
48	5	1435	A	C6-N6	-5.02	1.29	1.33
48	5	726	G	N7-C5	-5.02	1.36	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	5	2993	G	N1-C2	-5.01	1.33	1.37
48	5	1910	A	C6-N6	-5.01	1.29	1.33
48	5	1299	U	C4-O4	-5.01	1.19	1.23
48	5	987	U	C4-C5	5.01	1.48	1.43
18	R	72	GLU	CG-CD	5.01	1.59	1.51
30	d	102	LYS	CD-CE	5.00	1.63	1.51
48	5	2189	U	C2-O2	-5.00	1.17	1.22
48	5	2922	G	C5-C6	-5.00	1.37	1.42

All (4127) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	81	LYS	O-C-N	-73.85	4.54	122.70
46	t	15	LYS	O-C-N	-50.53	41.85	122.70
46	t	544	ASN	O-C-N	-46.67	32.42	121.10
46	t	162	PRO	N-CA-CB	37.84	148.71	103.30
46	t	168	PRO	N-CA-CB	37.79	148.65	103.30
46	t	172	PRO	N-CA-CB	37.77	148.62	103.30
46	t	545	PRO	N-CA-CB	37.68	148.52	103.30
46	t	520	PRO	N-CA-CB	37.65	148.48	103.30
48	5	1152	G	N3-C4-C5	33.58	145.39	128.60
46	t	162	PRO	CA-N-CD	-32.70	65.72	111.50
46	t	168	PRO	CA-N-CD	-32.65	65.78	111.50
46	t	545	PRO	CA-N-CD	-32.63	65.81	111.50
46	t	172	PRO	CA-N-CD	-32.32	66.26	111.50
46	t	520	PRO	CA-N-CD	-32.26	66.34	111.50
48	5	1152	G	N3-C4-N9	-31.56	107.06	126.00
48	5	1152	G	N3-C2-N2	-27.01	101.00	119.90
46	t	246	ARG	NE-CZ-NH1	-25.23	107.68	120.30
46	t	519	ARG	NE-CZ-NH2	-25.23	107.68	120.30
46	t	134	ARG	NE-CZ-NH2	-25.23	107.69	120.30
46	t	29	ARG	NE-CZ-NH2	-25.22	107.69	120.30
46	t	441	ARG	NE-CZ-NH1	-25.22	107.69	120.30
46	t	245	ARG	NE-CZ-NH2	-25.20	107.70	120.30
46	t	57	ARG	NE-CZ-NH2	-25.20	107.70	120.30
46	t	75	ARG	NE-CZ-NH1	-25.20	107.70	120.30
46	t	246	ARG	NE-CZ-NH2	-25.18	107.71	120.30
46	t	243	ARG	NE-CZ-NH1	-25.16	107.72	120.30
46	t	29	ARG	NE-CZ-NH1	-25.14	107.73	120.30
46	t	75	ARG	NE-CZ-NH2	-25.13	107.74	120.30
46	t	502	ARG	NE-CZ-NH1	-25.13	107.74	120.30
46	t	502	ARG	NE-CZ-NH2	-25.12	107.74	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	249	ARG	NE-CZ-NH2	-25.12	107.74	120.30
46	t	248	ARG	NE-CZ-NH1	-25.11	107.74	120.30
46	t	243	ARG	NE-CZ-NH2	-25.10	107.75	120.30
46	t	57	ARG	NE-CZ-NH1	-25.10	107.75	120.30
46	t	232	ARG	NE-CZ-NH2	-25.05	107.77	120.30
46	t	87	ARG	NE-CZ-NH2	-25.05	107.78	120.30
46	t	441	ARG	NE-CZ-NH2	-25.04	107.78	120.30
46	t	224	ARG	NE-CZ-NH1	-25.03	107.78	120.30
46	t	224	ARG	NE-CZ-NH2	-25.03	107.79	120.30
46	t	519	ARG	NE-CZ-NH1	-25.03	107.79	120.30
46	t	87	ARG	NE-CZ-NH1	-25.02	107.79	120.30
46	t	134	ARG	NE-CZ-NH1	-25.00	107.80	120.30
46	t	249	ARG	NE-CZ-NH1	-24.99	107.81	120.30
46	t	248	ARG	NE-CZ-NH2	-24.97	107.81	120.30
46	t	245	ARG	NE-CZ-NH1	-24.95	107.82	120.30
46	t	232	ARG	NE-CZ-NH1	-24.95	107.83	120.30
46	t	60	THR	N-CA-CB	24.21	156.29	110.30
46	t	54	THR	N-CA-CB	24.07	156.03	110.30
46	t	526	THR	N-CA-CB	24.04	155.98	110.30
48	5	1152	G	C2-N3-C4	-24.00	99.90	111.90
46	t	166	THR	N-CA-CB	23.87	155.66	110.30
46	t	531	THR	N-CA-CB	23.72	155.38	110.30
46	t	55	THR	N-CA-CB	23.70	155.33	110.30
46	t	517	THR	N-CA-CB	23.66	155.25	110.30
46	t	516	THR	N-CA-CB	23.23	154.44	110.30
46	t	246	ARG	NH1-CZ-NH2	22.91	144.60	119.40
46	t	29	ARG	NH1-CZ-NH2	22.89	144.58	119.40
46	t	75	ARG	NH1-CZ-NH2	22.88	144.56	119.40
46	t	57	ARG	NH1-CZ-NH2	22.86	144.55	119.40
46	t	243	ARG	NH1-CZ-NH2	22.85	144.53	119.40
46	t	519	ARG	NH1-CZ-NH2	22.84	144.53	119.40
46	t	441	ARG	NH1-CZ-NH2	22.84	144.53	119.40
46	t	502	ARG	NH1-CZ-NH2	22.84	144.53	119.40
46	t	134	ARG	NH1-CZ-NH2	22.83	144.51	119.40
46	t	245	ARG	NH1-CZ-NH2	22.80	144.47	119.40
46	t	249	ARG	NH1-CZ-NH2	22.78	144.46	119.40
46	t	248	ARG	NH1-CZ-NH2	22.77	144.44	119.40
46	t	87	ARG	NH1-CZ-NH2	22.76	144.44	119.40
46	t	224	ARG	NH1-CZ-NH2	22.75	144.43	119.40
46	t	232	ARG	NH1-CZ-NH2	22.73	144.40	119.40
48	5	922	U	C5-C6-N1	-22.12	111.64	122.70
48	5	922	U	C2-N3-C4	-21.63	114.02	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	544	ASN	C-N-CD	20.99	172.48	128.40
48	5	1152	G	C5-N7-C8	-19.98	94.31	104.30
48	5	922	U	N1-C2-N3	19.53	126.62	114.90
46	t	171	GLN	C-N-CD	19.25	168.81	128.40
48	5	1152	G	C8-N9-C1'	18.99	151.68	127.00
48	5	3245	A	C2-N3-C4	-18.79	101.20	110.60
48	5	3245	A	C5-N7-C8	-18.71	94.55	103.90
46	t	519	ARG	C-N-CD	17.49	165.13	128.40
48	5	1152	G	N1-C6-O6	17.25	130.25	119.90
46	t	167	LYS	C-N-CD	16.86	163.81	128.40
48	5	1152	G	C4-N9-C1'	-16.86	104.59	126.50
48	5	1152	G	C4-C5-N7	16.67	117.47	110.80
48	5	1152	G	N1-C2-N2	16.30	130.87	116.20
48	5	922	U	N1-C2-O2	-16.13	111.51	122.80
48	5	3245	A	N7-C8-N9	15.86	121.73	113.80
48	5	776	U	C5-C6-N1	-15.62	114.89	122.70
48	5	2726	C	C6-N1-C2	-15.44	114.13	120.30
48	5	1450	G	C5-N7-C8	15.25	111.93	104.30
46	t	387	VAL	CB-CA-C	-15.09	82.74	111.40
48	5	3245	A	C4-C5-N7	15.05	118.23	110.70
46	t	520	PRO	CB-CA-C	-14.88	74.79	112.00
46	t	545	PRO	CB-CA-C	-14.88	74.81	112.00
48	5	3245	A	N1-C6-N6	14.77	127.46	118.60
46	t	550	VAL	CB-CA-C	-14.67	83.53	111.40
46	t	168	PRO	CB-CA-C	-14.62	75.45	112.00
48	5	3245	A	C6-C5-N7	-14.57	122.10	132.30
46	t	172	PRO	CB-CA-C	-14.50	75.75	112.00
48	5	1152	G	C5-C6-O6	-14.41	119.95	128.60
46	t	162	PRO	CB-CA-C	-14.30	76.24	112.00
46	t	514	VAL	N-CA-CB	14.19	142.71	111.50
46	t	84	VAL	N-CA-CB	14.18	142.69	111.50
46	t	516	THR	CB-CA-C	-14.16	73.36	111.60
48	5	2353	G	C5-C6-O6	-14.15	120.11	128.60
46	t	61	VAL	N-CA-CB	14.11	142.54	111.50
48	5	2726	C	C5-C4-N4	14.09	130.06	120.20
46	t	163	VAL	N-CA-CB	14.03	142.37	111.50
48	5	2634	U	C5-C4-O4	-14.03	117.48	125.90
48	5	2634	U	C2-N3-C4	-14.00	118.60	127.00
46	t	163	VAL	CB-CA-C	-13.97	84.86	111.40
48	5	776	U	N1-C2-N3	13.97	123.28	114.90
48	5	1592	G	N1-C6-O6	-13.96	111.53	119.90
46	t	61	VAL	CB-CA-C	-13.92	84.95	111.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	550	VAL	N-CA-CB	13.78	141.82	111.50
46	t	161	TYR	C-N-CD	13.76	157.30	128.40
46	t	514	VAL	CB-CA-C	-13.65	85.47	111.40
46	t	387	VAL	N-CA-CB	13.61	141.45	111.50
46	t	84	VAL	CB-CA-C	-13.60	85.57	111.40
48	5	776	U	C4-C5-C6	13.48	127.79	119.70
46	t	517	THR	CB-CA-C	-13.43	75.34	111.60
48	5	2372	A	C8-N9-C4	-13.41	100.44	105.80
48	5	2245	C	C6-N1-C2	-13.40	114.94	120.30
46	t	55	THR	CB-CA-C	-13.34	75.57	111.60
48	5	922	U	C4-C5-C6	13.27	127.66	119.70
48	5	1450	G	N7-C8-N9	-13.23	106.48	113.10
48	5	631	U	N3-C2-O2	-13.16	112.99	122.20
46	t	531	THR	CB-CA-C	-13.14	76.13	111.60
48	5	2278	C	N1-C2-O2	-13.02	111.09	118.90
46	t	166	THR	CB-CA-C	-13.02	76.45	111.60
48	5	2361	A	C2-N3-C4	13.00	117.10	110.60
48	5	2303	A	C2-N3-C4	12.94	117.07	110.60
48	5	3214	U	C5-C4-O4	12.92	133.65	125.90
48	5	2726	C	N1-C2-N3	12.86	128.20	119.20
48	5	2308	C	N1-C2-O2	-12.77	111.24	118.90
48	5	1208	U	N3-C4-O4	-12.76	110.47	119.40
48	5	1208	U	C5-C4-O4	12.73	133.54	125.90
48	5	2327	U	C5-C6-N1	-12.66	116.37	122.70
48	5	3214	U	N3-C2-O2	-12.62	113.37	122.20
48	5	1152	G	C4-C5-C6	-12.61	111.24	118.80
48	5	2758	A	C2-N3-C4	12.60	116.90	110.60
31	e	43	ARG	NE-CZ-NH1	12.57	126.59	120.30
46	t	54	THR	CB-CA-C	-12.49	77.86	111.60
46	t	526	THR	CB-CA-C	-12.44	78.01	111.60
48	5	776	U	N3-C2-O2	-12.43	113.50	122.20
48	5	1371	G	N1-C6-O6	-12.42	112.45	119.90
48	5	1434	G	C5-N7-C8	12.36	110.48	104.30
48	5	1450	G	C4-C5-N7	-12.34	105.87	110.80
48	5	1846	C	C5-C6-N1	-12.33	114.84	121.00
48	5	591	G	C5-C6-O6	-12.23	121.26	128.60
49	7	120	C	C6-N1-C2	12.21	125.18	120.30
46	t	60	THR	CB-CA-C	-12.19	78.69	111.60
48	5	2340	U	N3-C4-O4	-12.07	110.95	119.40
48	5	1308	A	N7-C8-N9	12.01	119.80	113.80
48	5	3245	A	N1-C2-N3	11.97	135.29	129.30
48	5	2726	C	C4-C5-C6	11.92	123.36	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1056	U	C4-C5-C6	11.86	126.81	119.70
46	t	513	SER	N-CA-CB	11.83	128.24	110.50
48	5	290	G	N1-C6-O6	-11.76	112.84	119.90
48	5	667	C	C6-N1-C2	11.75	125.00	120.30
48	5	2808	A	N9-C4-C5	-11.73	101.11	105.80
48	5	2278	C	N1-C2-N3	11.73	127.41	119.20
48	5	966	U	N3-C2-O2	-11.71	114.00	122.20
48	5	2726	C	N3-C4-C5	-11.68	117.23	121.90
46	t	549	ILE	CB-CA-C	-11.68	88.25	111.60
48	5	1389	G	C4-C5-N7	11.62	115.45	110.80
46	t	512	SER	N-CA-CB	11.47	127.70	110.50
48	5	1592	G	N3-C2-N2	11.43	127.90	119.90
48	5	1797	A	C5-N7-C8	11.40	109.60	103.90
48	5	1130	A	C2-N3-C4	11.39	116.30	110.60
46	t	52	SER	N-CA-CB	11.38	127.58	110.50
48	5	2899	C	N3-C2-O2	-11.37	113.94	121.90
48	5	2142	A	C5-C6-N1	11.28	123.34	117.70
48	5	414	U	C4-C5-C6	11.26	126.45	119.70
48	5	15	C	C6-N1-C2	-11.21	115.82	120.30
48	5	3377	G	C5-C6-O6	-11.21	121.88	128.60
48	5	2744	U	N3-C2-O2	-11.20	114.36	122.20
46	t	548	SER	N-CA-CB	11.19	127.29	110.50
48	5	1004	U	N1-C2-O2	11.16	130.61	122.80
46	t	49	SER	N-CA-CB	11.15	127.22	110.50
46	t	515	SER	N-CA-CB	11.04	127.05	110.50
48	5	2278	C	N3-C4-N4	-11.03	110.28	118.00
48	5	3060	C	N1-C2-O2	-11.03	112.28	118.90
48	5	2836	C	C2-N3-C4	-11.03	114.39	119.90
48	5	776	U	C5-C4-O4	10.95	132.47	125.90
48	5	41	G	N1-C6-O6	10.94	126.47	119.90
48	5	3138	U	N1-C2-O2	-10.93	115.15	122.80
48	5	2341	A	C8-N9-C4	10.90	110.16	105.80
48	5	931	C	C2-N3-C4	-10.89	114.45	119.90
48	5	2343	C	N3-C4-C5	10.89	126.26	121.90
48	5	1403	C	C6-N1-C2	10.88	124.65	120.30
48	5	41	G	C5-C6-O6	-10.88	122.07	128.60
48	5	947	G	N3-C4-C5	-10.87	123.17	128.60
48	5	2634	U	C5-C6-N1	-10.86	117.27	122.70
48	5	1119	C	N3-C4-C5	10.86	126.24	121.90
48	5	2726	C	N3-C2-O2	-10.84	114.32	121.90
48	5	420	G	C6-N1-C2	-10.82	118.61	125.10
48	5	2632	G	N1-C6-O6	-10.80	113.42	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	922	U	C2-N1-C1'	-10.75	104.80	117.70
48	5	2353	G	N1-C6-O6	10.69	126.31	119.90
48	5	1434	G	N7-C8-N9	-10.67	107.76	113.10
48	5	2234	G	C5-C6-O6	-10.64	122.22	128.60
48	5	2899	C	N1-C2-N3	10.63	126.64	119.20
46	t	169	ILE	CB-CA-C	-10.61	90.38	111.60
48	5	2512	C	C6-N1-C2	-10.61	116.06	120.30
48	5	2288	G	C5-C6-N1	10.59	116.79	111.50
48	5	2290	C	C5-C6-N1	-10.59	115.71	121.00
48	5	2905	U	C5-C6-N1	-10.59	117.41	122.70
48	5	1147	G	C4-C5-N7	-10.58	106.57	110.80
48	5	2631	U	C2-N3-C4	-10.55	120.67	127.00
46	t	529	SER	N-CA-CB	10.54	126.32	110.50
48	5	1592	G	N1-C2-N2	-10.54	106.71	116.20
48	5	2211	U	C4-C5-C6	10.53	126.02	119.70
48	5	3122	A	C8-N9-C4	-10.52	101.59	105.80
48	5	1907	C	C6-N1-C2	-10.51	116.10	120.30
48	5	957	C	N3-C4-C5	10.51	126.10	121.90
48	5	2314	U	C5-C4-O4	-10.50	119.60	125.90
48	5	546	C	C2-N1-C1'	10.49	130.34	118.80
48	5	1911	A	C8-N9-C4	10.47	109.99	105.80
48	5	1848	G	C5-C6-O6	-10.44	122.34	128.60
48	5	2314	U	N3-C4-O4	10.44	126.71	119.40
48	5	1301	A	N1-C6-N6	10.43	124.86	118.60
48	5	3172	A	C8-N9-C4	10.40	109.96	105.80
31	e	27	ARG	NE-CZ-NH2	-10.39	115.11	120.30
48	5	965	A	C2-N3-C4	10.35	115.78	110.60
48	5	2211	U	C5-C4-O4	10.35	132.11	125.90
48	5	2364	G	N1-C6-O6	-10.33	113.70	119.90
48	5	2836	C	C5-C6-N1	-10.32	115.84	121.00
48	5	930	U	N3-C4-C5	10.32	120.79	114.60
48	5	1797	A	N7-C8-N9	-10.32	108.64	113.80
48	5	819	U	C5-C6-N1	-10.31	117.55	122.70
48	5	1513	G	C8-N9-C4	-10.27	102.29	106.40
48	5	1303	A	N1-C2-N3	-10.26	124.17	129.30
48	5	1391	C	N1-C2-O2	-10.26	112.75	118.90
48	5	1903	U	N3-C4-O4	10.25	126.58	119.40
48	5	1429	G	N3-C2-N2	10.24	127.07	119.90
48	5	847	A	C8-N9-C4	10.23	109.89	105.80
48	5	2148	U	N1-C2-O2	-10.22	115.65	122.80
48	5	1004	U	N3-C4-O4	-10.20	112.26	119.40
48	5	1056	U	C6-N1-C2	-10.20	114.88	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3096	C	C4-C5-C6	10.20	122.50	117.40
50	8	8	C	C6-N1-C2	-10.20	116.22	120.30
48	5	414	U	C5-C6-N1	-10.18	117.61	122.70
48	5	2257	C	C6-N1-C2	-10.17	116.23	120.30
48	5	1297	C	C2-N3-C4	-10.16	114.82	119.90
48	5	1481	A	C8-N9-C4	-10.15	101.74	105.80
48	5	1440	G	N1-C6-O6	-10.13	113.83	119.90
48	5	2343	C	C2-N3-C4	-10.11	114.84	119.90
48	5	2632	G	C5-C6-O6	10.11	134.66	128.60
48	5	652	G	N1-C2-N2	-10.10	107.11	116.20
48	5	1308	A	C8-N9-C4	-10.06	101.78	105.80
48	5	3006	A	C2-N3-C4	-10.04	105.58	110.60
48	5	1208	U	N3-C2-O2	-10.04	115.17	122.20
48	5	1124	U	C4-C5-C6	-10.02	113.69	119.70
48	5	1389	G	N9-C4-C5	-10.01	101.39	105.40
48	5	877	C	N3-C4-C5	9.98	125.89	121.90
48	5	2366	C	C5-C6-N1	9.98	125.99	121.00
48	5	3362	A	C2-N3-C4	-9.97	105.62	110.60
48	5	339	C	N3-C4-N4	-9.96	111.03	118.00
50	8	25	G	N1-C6-O6	-9.95	113.93	119.90
50	8	32	C	N1-C2-O2	-9.92	112.95	118.90
48	5	2824	G	N3-C2-N2	-9.91	112.96	119.90
48	5	420	G	C5-C6-O6	-9.90	122.66	128.60
48	5	2905	U	C2-N3-C4	-9.90	121.06	127.00
48	5	2952	G	C5-C6-O6	-9.90	122.66	128.60
48	5	340	C	C2-N3-C4	-9.89	114.95	119.90
48	5	1152	G	N7-C8-N9	9.86	118.03	113.10
48	5	1484	U	C5-C6-N1	-9.85	117.77	122.70
48	5	1392	G	C8-N9-C4	9.84	110.34	106.40
48	5	2808	A	C8-N9-C4	9.84	109.73	105.80
48	5	947	G	C5-C6-N1	9.83	116.42	111.50
46	t	19	ILE	CB-CA-C	-9.82	91.96	111.60
15	O	182[B]	SER	O-C-N	-9.82	106.99	122.70
48	5	1655	G	C8-N9-C4	-9.81	102.48	106.40
48	5	2118	C	N3-C2-O2	-9.81	115.03	121.90
48	5	2246	G	N9-C4-C5	9.80	109.32	105.40
48	5	1064	A	N1-C6-N6	9.79	124.47	118.60
48	5	1655	G	N7-C8-N9	9.77	117.98	113.10
2	B	10	ARG	NE-CZ-NH2	-9.76	115.42	120.30
48	5	1057	A	N1-C6-N6	9.76	124.45	118.60
48	5	2361	A	N3-C4-C5	-9.76	119.97	126.80
46	t	168	PRO	N-CD-CG	-9.74	88.59	103.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2211	U	N1-C2-N3	9.74	120.75	114.90
48	5	3096	C	C2-N3-C4	-9.74	115.03	119.90
48	5	815	G	N1-C6-O6	-9.73	114.06	119.90
48	5	835	G	C5-C6-O6	-9.73	122.76	128.60
48	5	1448	U	C5-C6-N1	-9.73	117.84	122.70
48	5	2948	C	N3-C4-N4	-9.72	111.19	118.00
48	5	591	G	N1-C6-O6	9.72	125.73	119.90
48	5	2134	G	N1-C6-O6	-9.72	114.07	119.90
48	5	645	A	C6-N1-C2	-9.71	112.77	118.60
48	5	2917	G	C5-C6-O6	-9.71	122.77	128.60
48	5	2278	C	C6-N1-C2	-9.70	116.42	120.30
48	5	1147	G	C5-N7-C8	9.70	109.15	104.30
48	5	1888	U	C5-C6-N1	-9.67	117.86	122.70
46	t	545	PRO	N-CD-CG	-9.66	88.70	103.20
48	5	1127	G	C5-C6-O6	-9.65	122.81	128.60
48	5	1042	U	N3-C4-O4	-9.65	112.64	119.40
48	5	518	G	C5-C6-O6	-9.65	122.81	128.60
48	5	1327	C	N3-C4-N4	-9.65	111.25	118.00
48	5	1152	G	C8-N9-C4	-9.64	102.54	106.40
48	5	340	C	C5-C6-N1	-9.64	116.18	121.00
48	5	2424	A	N1-C6-N6	9.64	124.38	118.60
48	5	776	U	C2-N3-C4	-9.61	121.23	127.00
49	7	49	G	N1-C6-O6	9.60	125.66	119.90
48	5	2757	U	N1-C2-N3	9.59	120.65	114.90
48	5	2391	G	C8-N9-C4	-9.58	102.57	106.40
48	5	1403	C	C5-C4-N4	-9.56	113.51	120.20
48	5	3060	C	N3-C4-N4	9.56	124.69	118.00
48	5	1056	U	N1-C2-N3	9.53	120.62	114.90
48	5	905	U	C5-C4-O4	-9.53	120.18	125.90
48	5	2572	C	N1-C2-O2	9.53	124.62	118.90
48	5	1848	G	N1-C6-O6	9.49	125.60	119.90
48	5	2899	C	C5-C4-N4	9.49	126.85	120.20
48	5	1888	U	C4-C5-C6	9.48	125.39	119.70
48	5	2202	C	C5-C4-N4	-9.48	113.57	120.20
48	5	1210	U	C5-C4-O4	9.46	131.58	125.90
48	5	2705	A	C5-C6-N1	9.46	122.43	117.70
48	5	546	C	N1-C2-O2	9.46	124.57	118.90
48	5	708	G	C4-C5-N7	9.46	114.58	110.80
48	5	644	G	C2-N3-C4	9.45	116.63	111.90
50	8	113	U	C5-C6-N1	9.45	127.43	122.70
48	5	3362	A	N7-C8-N9	9.43	118.52	113.80
48	5	1449	A	C2-N3-C4	-9.43	105.89	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	386	A	N1-C6-N6	9.43	124.25	118.60
48	5	3376	A	C8-N9-C4	-9.42	102.03	105.80
48	5	1858	A	C8-N9-C4	-9.42	102.03	105.80
48	5	1902	G	C5-C6-O6	-9.40	122.96	128.60
48	5	2340	U	N3-C4-C5	9.40	120.24	114.60
48	5	40	A	N1-C2-N3	9.40	134.00	129.30
48	5	1239	C	C5-C6-N1	9.39	125.70	121.00
48	5	2899	C	C6-N1-C2	-9.39	116.54	120.30
48	5	1064	A	N9-C4-C5	-9.38	102.05	105.80
48	5	3218	A	C5-N7-C8	-9.37	99.22	103.90
48	5	2364	G	N9-C4-C5	9.37	109.15	105.40
48	5	21	G	C2-N3-C4	-9.37	107.22	111.90
48	5	2978	U	N3-C2-O2	-9.36	115.65	122.20
48	5	947	G	C2-N3-C4	9.35	116.58	111.90
48	5	282	G	C8-N9-C4	-9.34	102.66	106.40
48	5	966	U	N1-C2-O2	9.34	129.34	122.80
48	5	811	U	C5-C6-N1	-9.34	118.03	122.70
48	5	2246	G	C4-C5-N7	-9.33	107.07	110.80
48	5	721	G	N1-C6-O6	-9.32	114.31	119.90
48	5	1447	G	C8-N9-C4	-9.29	102.68	106.40
46	t	162	PRO	N-CD-CG	-9.29	89.26	103.20
48	5	3186	A	C8-N9-C4	-9.29	102.08	105.80
48	5	3050	U	N3-C2-O2	-9.28	115.70	122.20
48	5	1371	G	C5-C6-N1	9.28	116.14	111.50
48	5	3214	U	N3-C4-O4	-9.27	112.91	119.40
48	5	1151	U	N3-C4-O4	-9.26	112.92	119.40
48	5	1449	A	N1-C6-N6	9.26	124.16	118.60
48	5	1437	C	C6-N1-C2	-9.25	116.60	120.30
48	5	994	G	C5-C6-N1	9.25	116.12	111.50
48	5	1879	A	N1-C6-N6	9.25	124.15	118.60
48	5	2830	G	N9-C4-C5	9.25	109.10	105.40
48	5	3266	G	C5-C6-O6	9.25	134.15	128.60
48	5	3309	G	N3-C4-C5	-9.25	123.98	128.60
48	5	968	G	N3-C2-N2	9.23	126.36	119.90
48	5	3060	C	C5-C4-N4	-9.23	113.74	120.20
48	5	3245	A	C8-N9-C4	-9.23	102.11	105.80
48	5	1849	C	N1-C2-O2	9.22	124.43	118.90
50	8	80	A	C8-N9-C4	-9.21	102.12	105.80
48	5	1101	G	N3-C2-N2	9.21	126.34	119.90
48	5	2550	U	C5-C4-O4	9.20	131.42	125.90
48	5	1843	C	C6-N1-C2	-9.19	116.62	120.30
48	5	2354	C	N1-C2-O2	-9.19	113.39	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	532	CYS	N-CA-CB	9.17	127.10	110.60
2	B	2	SER	N-CA-C	-9.16	86.25	111.00
48	5	834	U	N3-C4-C5	9.16	120.09	114.60
48	5	3308	C	C4-C5-C6	9.16	121.98	117.40
48	5	1050	U	N3-C2-O2	-9.15	115.80	122.20
48	5	1156	C	N3-C4-C5	9.13	125.55	121.90
48	5	2365	C	N3-C4-N4	-9.13	111.61	118.00
48	5	2693	C	N3-C2-O2	-9.13	115.51	121.90
48	5	2744	U	N1-C2-O2	9.12	129.18	122.80
48	5	2142	A	C6-N1-C2	-9.11	113.14	118.60
2	B	4	ARG	NE-CZ-NH1	9.11	124.85	120.30
48	5	3362	A	C5-N7-C8	-9.10	99.35	103.90
48	5	1133	A	C2-N3-C4	9.09	115.14	110.60
48	5	2176	U	N3-C2-O2	-9.09	115.84	122.20
48	5	1911	A	N9-C4-C5	-9.07	102.17	105.80
48	5	2942	C	N3-C4-N4	9.06	124.34	118.00
48	5	2830	G	N1-C2-N3	9.06	129.34	123.90
48	5	369	A	C8-N9-C4	-9.06	102.18	105.80
48	5	3377	G	C4-C5-N7	9.06	114.42	110.80
48	5	1317	A	C5-C6-N6	-9.05	116.46	123.70
46	t	172	PRO	N-CD-CG	-9.04	89.64	103.20
48	5	2327	U	N3-C4-O4	-9.03	113.08	119.40
48	5	1487	G	N1-C6-O6	-9.02	114.49	119.90
48	5	3212	C	C2-N3-C4	-9.02	115.39	119.90
48	5	2808	A	C2-N3-C4	-9.01	106.09	110.60
48	5	802	C	C5-C6-N1	-9.00	116.50	121.00
48	5	2372	A	N7-C8-N9	9.00	118.30	113.80
48	5	1911	A	N1-C6-N6	9.00	124.00	118.60
17	Q	66	ARG	NE-CZ-NH2	-8.99	115.81	120.30
48	5	1181	U	C5-C6-N1	-8.98	118.21	122.70
48	5	2327	U	C2-N3-C4	-8.97	121.62	127.00
48	5	2320	A	C5-C6-N6	8.97	130.88	123.70
48	5	726	G	C4-C5-N7	8.97	114.39	110.80
48	5	802	C	C4-C5-C6	8.97	121.89	117.40
48	5	1450	G	C6-C5-N7	8.96	135.78	130.40
48	5	3040	A	C8-N9-C4	8.96	109.39	105.80
48	5	1450	G	C8-N9-C4	8.95	109.98	106.40
49	7	101	G	N1-C6-O6	8.95	125.27	119.90
48	5	881	C	N1-C2-O2	8.95	124.27	118.90
48	5	2836	C	C4-C5-C6	8.95	121.87	117.40
48	5	1116	G	C4-C5-N7	-8.94	107.22	110.80
48	5	631	U	N1-C2-N3	8.94	120.26	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2202	C	N1-C2-O2	-8.94	113.54	118.90
48	5	947	G	C6-N1-C2	-8.93	119.74	125.10
48	5	3049	A	C5-C6-N1	-8.93	113.23	117.70
48	5	631	U	N3-C4-O4	-8.93	113.15	119.40
48	5	887	G	C5-C6-N1	-8.92	107.04	111.50
48	5	2833	A	N1-C6-N6	-8.92	113.25	118.60
50	8	113	U	C2-N1-C1'	8.92	128.40	117.70
48	5	2728	G	N9-C4-C5	8.92	108.97	105.40
48	5	3382	U	C2-N1-C1'	8.92	128.40	117.70
48	5	2824	G	C6-N1-C2	-8.91	119.76	125.10
48	5	2719	U	C2-N1-C1'	-8.90	107.02	117.70
48	5	1158	A	N1-C6-N6	8.89	123.94	118.60
48	5	2857	C	N3-C4-C5	8.89	125.46	121.90
48	5	2905	U	N3-C4-O4	-8.88	113.19	119.40
48	5	433	A	C2-N3-C4	-8.87	106.16	110.60
48	5	1314	C	C2-N3-C4	-8.87	115.47	119.90
22	V	48	ARG	NE-CZ-NH1	8.87	124.73	120.30
46	t	19	ILE	N-CA-CB	8.87	131.20	110.80
48	5	2647	A	N9-C4-C5	8.86	109.34	105.80
48	5	2382	G	C5-C6-O6	8.85	133.91	128.60
48	5	3047	U	C5-C6-N1	-8.85	118.27	122.70
48	5	1044	U	N3-C4-O4	-8.85	113.21	119.40
48	5	1113	G	C2-N3-C4	-8.84	107.48	111.90
48	5	819	U	C4-C5-C6	8.84	125.00	119.70
48	5	2881	C	C2-N3-C4	-8.84	115.48	119.90
48	5	1429	G	N1-C2-N2	-8.83	108.25	116.20
48	5	2393	G	C8-N9-C4	8.82	109.93	106.40
48	5	1907	C	N3-C4-C5	-8.80	118.38	121.90
48	5	420	G	C5-C6-N1	8.79	115.89	111.50
48	5	1931	U	C2-N1-C1'	-8.79	107.15	117.70
48	5	1149	G	C2-N3-C4	8.79	116.29	111.90
48	5	2757	U	C4-C5-C6	8.78	124.97	119.70
48	5	3040	A	N7-C8-N9	-8.77	109.42	113.80
49	7	48	U	C2-N3-C4	-8.75	121.75	127.00
48	5	1840	U	N3-C2-O2	-8.74	116.08	122.20
48	5	2434	U	C5-C6-N1	-8.74	118.33	122.70
48	5	3127	A	N1-C6-N6	-8.74	113.36	118.60
17	Q	151	ARG	NE-CZ-NH1	-8.73	115.93	120.30
48	5	834	U	C4-C5-C6	-8.73	114.46	119.70
48	5	1311	G	C2-N3-C4	8.73	116.26	111.90
48	5	1846	C	C2-N3-C4	-8.73	115.54	119.90
48	5	1903	U	C4-C5-C6	8.73	124.94	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1119	C	C2-N3-C4	-8.72	115.54	119.90
50	8	17	A	N1-C6-N6	8.71	123.83	118.60
48	5	1412	G	C8-N9-C4	-8.71	102.92	106.40
48	5	2832	C	C5-C6-N1	-8.71	116.65	121.00
48	5	726	G	C6-C5-N7	-8.71	125.18	130.40
48	5	1134	G	C5-C6-O6	-8.70	123.38	128.60
48	5	1161	G	C5-C6-N1	8.70	115.85	111.50
48	5	3123	A	C8-N9-C4	8.70	109.28	105.80
48	5	2292	U	N3-C2-O2	-8.69	116.11	122.20
48	5	2190	U	C5-C4-O4	8.69	131.12	125.90
48	5	2409	G	C8-N9-C4	-8.69	102.92	106.40
48	5	2858	U	N3-C2-O2	-8.69	116.12	122.20
48	5	2730	G	N1-C6-O6	8.68	125.11	119.90
48	5	2758	A	N1-C2-N3	-8.68	124.96	129.30
48	5	2416	U	C6-N1-C2	-8.68	115.79	121.00
48	5	2699	G	C5-C6-O6	-8.68	123.39	128.60
48	5	644	G	C5-C6-N1	8.66	115.83	111.50
48	5	796	U	N3-C2-O2	-8.66	116.14	122.20
48	5	2961	G	C8-N9-C4	-8.66	102.94	106.40
48	5	1327	C	N1-C2-O2	8.66	124.10	118.90
48	5	339	C	C5-C4-N4	8.66	126.26	120.20
48	5	2385	G	N3-C4-C5	8.66	132.93	128.60
48	5	2865	U	C5-C6-N1	8.66	127.03	122.70
48	5	2271	A	N7-C8-N9	-8.66	109.47	113.80
48	5	2434	U	N3-C4-O4	-8.64	113.35	119.40
48	5	3143	C	N1-C2-O2	-8.64	113.72	118.90
46	t	175	PRO	CA-N-CD	-8.63	99.42	111.50
48	5	326	U	C5-C4-O4	-8.63	120.72	125.90
48	5	2290	C	C2-N3-C4	-8.62	115.59	119.90
46	t	520	PRO	N-CD-CG	-8.61	90.28	103.20
49	7	92	A	N1-C6-N6	8.61	123.77	118.60
48	5	821	U	C5-C6-N1	-8.60	118.40	122.70
48	5	3374	U	N3-C4-C5	8.60	119.76	114.60
48	5	938	C	C2-N3-C4	-8.60	115.60	119.90
48	5	437	G	C8-N9-C4	-8.60	102.96	106.40
48	5	2988	C	N3-C2-O2	-8.59	115.89	121.90
48	5	3010	U	N3-C2-O2	-8.59	116.19	122.20
48	5	2392	C	C2-N3-C4	-8.59	115.61	119.90
48	5	726	G	C5-C6-O6	-8.59	123.45	128.60
48	5	2391	G	N1-C6-O6	-8.58	114.75	119.90
48	5	66	A	C8-N9-C4	8.58	109.23	105.80
48	5	2728	G	N3-C2-N2	-8.58	113.89	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	345	G	C5-C6-N1	8.57	115.79	111.50
48	5	2638	C	N1-C2-O2	-8.57	113.76	118.90
48	5	2687	G	N1-C6-O6	-8.55	114.77	119.90
48	5	2952	G	N3-C2-N2	-8.55	113.92	119.90
48	5	2524	A	C5-N7-C8	-8.54	99.63	103.90
48	5	946	U	N3-C2-O2	-8.54	116.22	122.20
48	5	2988	C	C4-C5-C6	8.54	121.67	117.40
48	5	1143	A	C5-C6-N1	-8.53	113.43	117.70
48	5	1409	G	N1-C6-O6	-8.51	114.79	119.90
48	5	2634	U	N1-C2-O2	-8.51	116.84	122.80
48	5	887	G	C5-C6-O6	8.51	133.70	128.60
48	5	1942	U	N1-C2-O2	-8.51	116.84	122.80
48	5	3137	C	N3-C4-C5	8.50	125.30	121.90
48	5	1050	U	N1-C2-O2	8.50	128.75	122.80
48	5	341	G	C5-C6-O6	-8.50	123.50	128.60
48	5	224	C	N1-C2-O2	8.49	123.99	118.90
48	5	580	C	C6-N1-C2	-8.48	116.91	120.30
48	5	2301	U	C2-N3-C4	-8.47	121.92	127.00
48	5	2913	C	C4-C5-C6	8.47	121.64	117.40
46	t	169	ILE	N-CA-CB	8.46	130.25	110.80
48	5	343	U	N3-C2-O2	-8.45	116.28	122.20
48	5	945	C	N3-C4-C5	8.45	125.28	121.90
48	5	2732	G	N1-C6-O6	-8.45	114.83	119.90
48	5	2978	U	C5-C6-N1	-8.45	118.47	122.70
48	5	3321	C	C5-C6-N1	-8.45	116.78	121.00
48	5	999	G	N1-C6-O6	-8.45	114.83	119.90
48	5	2345	A	N1-C6-N6	8.45	123.67	118.60
48	5	2928	C	C4-C5-C6	8.45	121.62	117.40
48	5	1342	C	C5-C6-N1	-8.44	116.78	121.00
48	5	1469	C	N3-C4-C5	-8.44	118.53	121.90
48	5	1085	A	N7-C8-N9	8.44	118.02	113.80
48	5	1047	A	C2-N3-C4	8.43	114.82	110.60
48	5	2683	U	N1-C2-O2	8.43	128.70	122.80
48	5	817	A	C8-N9-C4	-8.43	102.43	105.80
48	5	811	U	C2-N3-C4	-8.42	121.95	127.00
48	5	2913	C	C2-N3-C4	-8.42	115.69	119.90
48	5	652	G	N3-C4-C5	-8.42	124.39	128.60
46	t	510	CYS	N-CA-CB	8.41	125.74	110.60
48	5	1064	A	C5-C6-N6	-8.41	116.97	123.70
48	5	2234	G	N9-C4-C5	-8.40	102.04	105.40
48	5	2980	U	N1-C2-N3	8.40	119.94	114.90
50	8	14	C	C5-C6-N1	-8.40	116.80	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2307	G	N3-C4-C5	-8.39	124.41	128.60
48	5	3102	G	N3-C2-N2	8.39	125.77	119.90
48	5	1487	G	C5-C6-O6	8.38	133.63	128.60
48	5	916	G	C5-C6-O6	8.38	133.63	128.60
48	5	1156	C	C2-N3-C4	-8.38	115.71	119.90
48	5	1402	C	N3-C2-O2	-8.38	116.03	121.90
48	5	3377	G	C5-C6-N1	8.38	115.69	111.50
48	5	986	U	C5-C4-O4	-8.38	120.87	125.90
50	8	55	U	N1-C2-N3	8.37	119.92	114.90
49	7	48	U	C5-C4-O4	-8.35	120.89	125.90
46	t	529	SER	CB-CA-C	-8.35	94.23	110.10
48	5	715	A	C2-N3-C4	8.34	114.77	110.60
48	5	2820	A	C8-N9-C4	-8.34	102.47	105.80
49	7	69	C	C6-N1-C2	8.34	123.64	120.30
49	7	96	U	C2-N3-C4	-8.34	122.00	127.00
48	5	435	C	N3-C4-C5	8.33	125.23	121.90
48	5	2870	C	C6-N1-C2	-8.33	116.97	120.30
48	5	3050	U	C5-C4-O4	8.33	130.90	125.90
48	5	2621	G	N1-C6-O6	8.32	124.89	119.90
48	5	1898	G	C2-N3-C4	8.32	116.06	111.90
50	8	80	A	N7-C8-N9	8.31	117.96	113.80
48	5	2683	U	N3-C2-O2	-8.31	116.38	122.20
48	5	616	G	C5-C6-N1	8.31	115.66	111.50
48	5	511	G	N1-C6-O6	-8.31	114.92	119.90
48	5	3173	G	C5-C6-O6	-8.31	123.61	128.60
46	t	50	TYR	N-CA-CB	8.30	125.54	110.60
49	7	93	C	C5-C6-N1	-8.30	116.85	121.00
15	O	197[B]	PHE	C-N-CA	-8.29	104.89	122.30
48	5	2360	C	C4-C5-C6	8.29	121.54	117.40
48	5	926	A	C5-C6-N1	8.28	121.84	117.70
48	5	2320	A	C2-N3-C4	-8.28	106.46	110.60
48	5	968	G	N9-C4-C5	-8.28	102.09	105.40
48	5	715	A	N1-C6-N6	-8.27	113.64	118.60
48	5	2371	G	N3-C2-N2	8.27	125.69	119.90
48	5	2695	A	C8-N9-C4	-8.27	102.49	105.80
49	7	93	C	C2-N3-C4	-8.27	115.76	119.90
49	7	96	U	N1-C2-N3	8.27	119.86	114.90
48	5	1604	G	C8-N9-C1'	-8.27	116.25	127.00
48	5	2412	G	C8-N9-C4	-8.27	103.09	106.40
48	5	2735	U	C5-C6-N1	8.27	126.83	122.70
48	5	1392	G	N7-C8-N9	-8.26	108.97	113.10
48	5	818	C	N1-C2-O2	-8.26	113.95	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2211	U	N3-C2-O2	-8.25	116.42	122.20
48	5	726	G	N1-C6-O6	8.25	124.85	119.90
48	5	1110	U	N3-C4-C5	8.25	119.55	114.60
48	5	1480	G	N7-C8-N9	-8.24	108.98	113.10
46	t	388	TYR	N-CA-CB	8.24	125.44	110.60
48	5	2859	U	N3-C4-O4	-8.24	113.64	119.40
48	5	435	C	C5-C4-N4	-8.23	114.44	120.20
48	5	591	G	N9-C4-C5	-8.22	102.11	105.40
48	5	805	G	C8-N9-C4	8.22	109.69	106.40
48	5	1015	U	C5-C6-N1	8.22	126.81	122.70
48	5	922	U	C6-N1-C1'	8.22	132.71	121.20
48	5	514	G	C5-C6-O6	-8.21	123.68	128.60
48	5	2190	U	N3-C4-O4	-8.21	113.66	119.40
48	5	2202	C	N3-C2-O2	8.21	127.64	121.90
9	I	128	ARG	NE-CZ-NH2	-8.20	116.20	120.30
46	t	161	TYR	N-CA-CB	8.20	125.36	110.60
48	5	1054	A	C8-N9-C4	8.20	109.08	105.80
48	5	1178	G	C8-N9-C4	-8.20	103.12	106.40
48	5	2634	U	N3-C4-C5	8.20	119.52	114.60
48	5	1494	U	C6-N1-C2	8.20	125.92	121.00
48	5	280	U	C2-N3-C4	-8.20	122.08	127.00
50	8	55	U	C6-N1-C2	-8.20	116.08	121.00
46	t	62	PRO	CA-N-CD	-8.19	100.04	111.50
48	5	15	C	C5-C6-N1	8.19	125.09	121.00
48	5	3317	U	C5-C4-O4	8.19	130.81	125.90
48	5	769	G	C8-N9-C4	8.18	109.67	106.40
48	5	2302	G	C5-C6-O6	8.18	133.51	128.60
48	5	1586	G	C5-C6-O6	-8.18	123.69	128.60
48	5	3215	A	N1-C6-N6	8.18	123.51	118.60
48	5	1516	C	C2-N3-C4	-8.17	115.82	119.90
48	5	1404	G	C8-N9-C4	8.17	109.67	106.40
6	F	88	ARG	NE-CZ-NH2	-8.16	116.22	120.30
48	5	2182	A	N1-C6-N6	-8.16	113.70	118.60
48	5	949	C	C4-C5-C6	8.16	121.48	117.40
48	5	1176	C	C5-C6-N1	-8.16	116.92	121.00
48	5	2859	U	C5-C4-O4	8.16	130.80	125.90
48	5	343	U	N1-C2-O2	8.15	128.51	122.80
48	5	1390	A	N9-C4-C5	8.15	109.06	105.80
48	5	926	A	C5-C6-N6	-8.15	117.18	123.70
48	5	916	G	N1-C6-O6	-8.14	115.02	119.90
48	5	2970	C	C4-C5-C6	8.14	121.47	117.40
48	5	842	G	C5-C6-O6	-8.14	123.72	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	987	U	N1-C2-N3	8.14	119.78	114.90
48	5	2609	A	C5-N7-C8	8.14	107.97	103.90
48	5	41	G	C5-N7-C8	-8.14	100.23	104.30
50	8	113	U	N3-C4-O4	8.13	125.09	119.40
19	S	115	ARG	NE-CZ-NH1	8.12	124.36	120.30
48	5	3122	A	N9-C4-C5	8.12	109.05	105.80
48	5	2838	A	C5-C6-N6	-8.12	117.21	123.70
48	5	2913	C	N1-C2-N3	8.11	124.88	119.20
48	5	2175	U	C5-C6-N1	-8.11	118.65	122.70
48	5	290	G	C5-C6-O6	8.11	133.46	128.60
48	5	1445	U	C5-C4-O4	-8.10	121.04	125.90
48	5	3343	G	N9-C4-C5	-8.10	102.16	105.40
48	5	2440	G	C8-N9-C4	-8.10	103.16	106.40
48	5	817	A	C2-N3-C4	8.09	114.65	110.60
48	5	945	C	C2-N3-C4	-8.09	115.86	119.90
48	5	1449	A	C5-N7-C8	-8.09	99.86	103.90
48	5	1858	A	N3-C4-C5	-8.08	121.14	126.80
50	8	2	A	C8-N9-C4	-8.08	102.57	105.80
48	5	631	U	C2-N3-C4	-8.08	122.15	127.00
48	5	708	G	C5-N7-C8	-8.08	100.26	104.30
48	5	637	C	N1-C2-O2	-8.08	114.05	118.90
48	5	2665	U	N1-C2-N3	-8.08	110.05	114.90
48	5	413	U	C2-N3-C4	-8.07	122.16	127.00
50	8	74	U	C5-C4-O4	-8.07	121.06	125.90
48	5	2278	C	C5-C4-N4	8.07	125.85	120.20
50	8	38	U	C5-C6-N1	-8.07	118.67	122.70
48	5	1512	U	N1-C2-N3	8.06	119.74	114.90
48	5	2290	C	C4-C5-C6	8.06	121.43	117.40
48	5	2512	C	C5-C6-N1	8.06	125.03	121.00
48	5	3362	A	N1-C2-N3	8.05	133.33	129.30
48	5	1085	A	C5-N7-C8	-8.05	99.87	103.90
48	5	2281	A	C8-N9-C4	8.05	109.02	105.80
48	5	2572	C	C2-N1-C1'	8.05	127.66	118.80
48	5	824	C	C6-N1-C2	-8.05	117.08	120.30
48	5	3362	A	C8-N9-C4	-8.05	102.58	105.80
48	5	359	U	C2-N3-C4	-8.04	122.17	127.00
48	5	1879	A	C6-C5-N7	-8.04	126.67	132.30
49	7	81	U	N3-C4-C5	8.04	119.43	114.60
48	5	1879	A	C8-N9-C4	-8.04	102.58	105.80
48	5	3309	G	N3-C4-N9	8.04	130.82	126.00
48	5	2630	C	N3-C4-C5	8.04	125.11	121.90
15	O	3[B]	SER	O-C-N	8.03	135.56	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	135	PRO	N-CD-CG	-8.04	91.15	103.20
48	5	2246	G	N1-C6-O6	-8.03	115.08	119.90
48	5	3215	A	C2-N3-C4	-8.03	106.58	110.60
49	7	112	G	N1-C6-O6	-8.03	115.08	119.90
48	5	1193	A	N1-C2-N3	8.03	133.31	129.30
48	5	2189	U	N1-C2-N3	8.02	119.71	114.90
48	5	1113	G	C8-N9-C4	8.02	109.61	106.40
48	5	3110	C	C4-C5-C6	8.02	121.41	117.40
48	5	945	C	C6-N1-C2	8.02	123.51	120.30
28	b	39	PHE	N-CA-CB	8.01	125.02	110.60
48	5	278	U	C5-C6-N1	8.01	126.70	122.70
48	5	857	G	C5-C6-N1	8.01	115.50	111.50
48	5	851	C	C6-N1-C2	-8.00	117.10	120.30
48	5	355	A	C2-N3-C4	-7.99	106.60	110.60
48	5	2777	G	C5-C6-O6	7.99	133.39	128.60
48	5	2278	C	C2-N3-C4	-7.99	115.91	119.90
48	5	329	U	C5-C6-N1	-7.98	118.71	122.70
48	5	1484	U	C6-N1-C2	7.98	125.79	121.00
48	5	2350	C	C5-C6-N1	-7.98	117.01	121.00
48	5	3343	G	N3-C4-N9	7.97	130.78	126.00
49	7	85	G	N1-C6-O6	-7.97	115.12	119.90
48	5	1441	G	N1-C6-O6	-7.97	115.12	119.90
48	5	1481	A	N7-C8-N9	7.97	117.78	113.80
48	5	1148	G	C2-N3-C4	7.96	115.88	111.90
48	5	277	G	N1-C6-O6	-7.96	115.12	119.90
48	5	784	A	N1-C6-N6	7.96	123.38	118.60
48	5	1592	G	C5-C6-N1	7.96	115.48	111.50
48	5	2317	A	C8-N9-C4	-7.96	102.62	105.80
48	5	2870	C	C6-N1-C1'	7.96	130.35	120.80
48	5	1140	G	N1-C6-O6	-7.95	115.13	119.90
48	5	2757	U	N3-C4-O4	7.95	124.97	119.40
48	5	813	G	C8-N9-C4	-7.95	103.22	106.40
48	5	2836	C	N1-C2-N3	7.95	124.76	119.20
46	t	510	CYS	CB-CA-C	-7.95	94.51	110.40
48	5	3102	G	N1-C6-O6	-7.94	115.14	119.90
48	5	2288	G	C2-N3-C4	7.94	115.87	111.90
48	5	2366	C	N3-C4-N4	7.93	123.55	118.00
48	5	2531	C	C2-N1-C1'	7.93	127.53	118.80
48	5	1939	G	C5-C6-O6	7.93	133.36	128.60
48	5	1392	G	N3-C4-N9	7.93	130.76	126.00
15	O	27[B]	VAL	O-C-N	-7.93	110.02	122.70
48	5	2865	U	C5-C4-O4	-7.92	121.14	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	e	43	ARG	NE-CZ-NH2	-7.92	116.34	120.30
48	5	3377	G	N9-C4-C5	-7.92	102.23	105.40
48	5	345	G	N1-C6-O6	-7.92	115.15	119.90
48	5	1317	A	N1-C6-N6	7.91	123.34	118.60
49	7	26	C	C4-C5-C6	7.90	121.35	117.40
48	5	1793	C	N3-C4-C5	-7.90	118.74	121.90
6	F	88	ARG	NE-CZ-NH1	7.90	124.25	120.30
46	t	549	ILE	N-CA-CB	7.90	128.96	110.80
48	5	2913	C	C5-C6-N1	-7.90	117.05	121.00
48	5	2400	G	C2-N3-C4	-7.89	107.95	111.90
48	5	1390	A	C8-N9-C4	-7.88	102.65	105.80
48	5	276	U	C5-C6-N1	-7.88	118.76	122.70
48	5	2993	G	C5-C6-O6	-7.88	123.87	128.60
48	5	1297	C	C5-C6-N1	-7.88	117.06	121.00
48	5	2550	U	N1-C2-N3	7.88	119.63	114.90
48	5	3151	U	C6-N1-C2	7.88	125.72	121.00
48	5	2618	G	C5-C6-O6	-7.87	123.88	128.60
48	5	2366	C	C2-N1-C1'	7.87	127.45	118.80
48	5	2130	G	N3-C2-N2	7.86	125.40	119.90
48	5	1480	G	C5-N7-C8	7.86	108.23	104.30
48	5	708	G	C5-C6-O6	-7.85	123.89	128.60
48	5	343	U	N3-C4-O4	-7.85	113.90	119.40
48	5	2381	G	C8-N9-C4	-7.85	103.26	106.40
3	C	339	LEU	CA-CB-CG	7.85	133.36	115.30
48	5	960	U	C5-C6-N1	-7.85	118.78	122.70
48	5	1940	G	N3-C2-N2	7.85	125.39	119.90
48	5	3050	U	N1-C2-O2	7.85	128.29	122.80
48	5	629	U	N3-C4-C5	7.84	119.30	114.60
48	5	2395	G	C5-N7-C8	7.83	108.22	104.30
48	5	1845	G	C5-C6-N1	7.83	115.42	111.50
48	5	1440	G	C5-C6-O6	7.83	133.30	128.60
48	5	934	G	C5-C6-O6	-7.83	123.90	128.60
48	5	226	C	C6-N1-C2	7.82	123.43	120.30
48	5	530	G	N1-C6-O6	-7.82	115.21	119.90
48	5	1834	U	C2-N1-C1'	-7.82	108.31	117.70
48	5	3146	G	C5-C6-O6	7.82	133.29	128.60
48	5	859	G	C8-N9-C4	-7.81	103.28	106.40
48	5	1150	A	C2-N3-C4	-7.81	106.70	110.60
48	5	1364	C	N1-C2-O2	-7.81	114.21	118.90
48	5	2919	A	N1-C6-N6	-7.81	113.91	118.60
48	5	3096	C	N1-C2-N3	7.81	124.67	119.20
48	5	3206	C	N3-C2-O2	-7.81	116.43	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	641	C	N1-C2-O2	-7.81	114.22	118.90
48	5	904	A	N1-C6-N6	-7.81	113.92	118.60
48	5	2899	C	N3-C4-N4	-7.79	112.54	118.00
48	5	3308	C	N1-C2-N3	7.79	124.66	119.20
46	t	240	PRO	N-CD-CG	-7.79	91.51	103.20
48	5	630	A	N1-C2-N3	7.79	133.20	129.30
48	5	1792	C	N1-C2-O2	-7.79	114.22	118.90
48	5	3130	A	N1-C2-N3	7.79	133.20	129.30
48	5	2705	A	C5-C6-N6	-7.79	117.47	123.70
48	5	2807	U	C5-C4-O4	-7.79	121.23	125.90
48	5	2303	A	N9-C4-C5	7.79	108.92	105.80
48	5	2960	C	N3-C4-C5	7.79	125.02	121.90
48	5	2288	G	C6-N1-C2	-7.79	120.43	125.10
48	5	2550	U	N3-C4-O4	-7.79	113.95	119.40
48	5	3377	G	N3-C4-N9	7.79	130.67	126.00
48	5	974	G	N3-C4-C5	-7.78	124.71	128.60
48	5	3187	A	C5-N7-C8	7.78	107.79	103.90
46	t	515	SER	CB-CA-C	-7.78	95.33	110.10
48	5	2134	G	C5-C6-N1	7.78	115.39	111.50
48	5	2202	C	N3-C4-N4	7.78	123.44	118.00
48	5	2905	U	N3-C4-C5	7.77	119.26	114.60
48	5	2882	U	N1-C2-N3	7.77	119.56	114.90
48	5	990	U	N1-C2-O2	7.76	128.23	122.80
48	5	2315	G	C8-N9-C4	7.76	109.50	106.40
48	5	1295	G	N1-C6-O6	-7.75	115.25	119.90
48	5	3065	G	N1-C6-O6	-7.74	115.25	119.90
48	5	2634	U	C6-N1-C2	7.74	125.64	121.00
48	5	216	G	N1-C6-O6	7.74	124.54	119.90
48	5	2584	G	C4-N9-C1'	7.73	136.55	126.50
48	5	3266	G	N9-C4-C5	7.73	108.49	105.40
9	I	167	LEU	CA-CB-CG	7.73	133.08	115.30
48	5	1833	G	N1-C6-O6	-7.73	115.26	119.90
48	5	2346	C	C2-N3-C4	-7.73	116.04	119.90
48	5	594	U	C6-N1-C2	-7.72	116.37	121.00
48	5	1311	G	C5-C6-N1	7.72	115.36	111.50
48	5	3187	A	N1-C6-N6	-7.72	113.97	118.60
48	5	2891	U	C2-N3-C4	-7.72	122.37	127.00
48	5	2246	G	C5-C6-O6	7.72	133.23	128.60
48	5	2975	U	N3-C4-C5	7.72	119.23	114.60
49	7	39	C	C6-N1-C2	-7.71	117.21	120.30
48	5	2278	C	C6-N1-C1'	7.71	130.06	120.80
48	5	546	C	C6-N1-C1'	-7.71	111.55	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2757	U	C2-N3-C4	-7.71	122.37	127.00
48	5	1480	G	C8-N9-C4	7.71	109.48	106.40
48	5	3185	U	C2-N3-C4	-7.70	122.38	127.00
48	5	1604	G	C4-N9-C1'	7.70	136.51	126.50
46	t	436	PRO	N-CD-CG	-7.70	91.65	103.20
48	5	1391	C	N3-C2-O2	7.70	127.29	121.90
48	5	519	A	N1-C6-N6	7.69	123.22	118.60
48	5	2303	A	C8-N9-C4	-7.69	102.72	105.80
48	5	324	A	C8-N9-C4	-7.69	102.73	105.80
48	5	1889	G	N1-C6-O6	-7.68	115.29	119.90
48	5	877	C	C4-C5-C6	-7.68	113.56	117.40
48	5	1402	C	C5-C6-N1	-7.67	117.17	121.00
48	5	1370	G	N1-C6-O6	-7.67	115.30	119.90
48	5	2887	A	C5-C6-N1	-7.66	113.87	117.70
12	L	21	ARG	NE-CZ-NH1	-7.66	116.47	120.30
48	5	753	C	C2-N3-C4	-7.66	116.07	119.90
48	5	971	G	C5-N7-C8	7.66	108.13	104.30
49	7	11	A	C8-N9-C4	7.65	108.86	105.80
48	5	2698	G	C8-N9-C4	7.65	109.46	106.40
50	8	11	C	N3-C2-O2	-7.65	116.55	121.90
48	5	376	G	C5-C6-N1	7.65	115.32	111.50
48	5	2393	G	N1-C6-O6	7.65	124.49	119.90
48	5	3330	A	C5-C6-N1	7.64	121.52	117.70
48	5	81	C	N3-C4-C5	7.64	124.96	121.90
48	5	2703	A	C8-N9-C4	-7.64	102.74	105.80
48	5	3096	C	C5-C6-N1	-7.64	117.18	121.00
31	e	45	ARG	NE-CZ-NH2	-7.64	116.48	120.30
48	5	1124	U	N1-C2-N3	-7.63	110.32	114.90
48	5	2234	G	C4-C5-N7	7.63	113.85	110.80
49	7	67	G	N3-C2-N2	-7.63	114.56	119.90
46	t	49	SER	CB-CA-C	-7.63	95.60	110.10
48	5	665	A	N1-C6-N6	7.63	123.18	118.60
48	5	1381	A	C8-N9-C4	7.62	108.85	105.80
48	5	3245	A	C5-C6-N1	-7.62	113.89	117.70
48	5	1163	A	N1-C6-N6	-7.62	114.03	118.60
46	t	357	PRO	CA-N-CD	-7.62	100.84	111.50
48	5	121	A	C8-N9-C4	7.62	108.85	105.80
48	5	2643	A	C2-N3-C4	7.62	114.41	110.60
50	8	144	G	N1-C6-O6	7.61	124.46	119.90
48	5	419	G	C5-C6-O6	-7.60	124.04	128.60
48	5	2611	U	C5-C6-N1	-7.60	118.90	122.70
48	5	2372	A	N9-C4-C5	7.60	108.84	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	971	G	N7-C8-N9	-7.60	109.30	113.10
48	5	2138	A	C8-N9-C4	-7.60	102.76	105.80
48	5	2524	A	N7-C8-N9	7.59	117.60	113.80
48	5	851	C	C5-C6-N1	7.59	124.79	121.00
48	5	1130	A	C5-C6-N1	7.59	121.50	117.70
48	5	1163	A	C5-N7-C8	7.59	107.69	103.90
48	5	3006	A	C5-C6-N1	-7.59	113.91	117.70
50	8	6	U	C2-N3-C4	-7.59	122.45	127.00
48	5	2237	C	N3-C4-N4	-7.59	112.69	118.00
48	5	3140	G	C4-C5-N7	7.58	113.83	110.80
48	5	1014	U	C2-N1-C1'	7.58	126.80	117.70
48	5	1396	C	N3-C4-C5	7.58	124.93	121.90
48	5	2433	U	C6-N1-C2	7.58	125.55	121.00
48	5	971	G	C2-N3-C4	7.58	115.69	111.90
48	5	2234	G	C8-N9-C4	7.58	109.43	106.40
48	5	289	A	C6-N1-C2	-7.58	114.06	118.60
48	5	3055	U	N3-C2-O2	-7.58	116.90	122.20
48	5	1390	A	N1-C6-N6	-7.57	114.06	118.60
48	5	630	A	C2-N3-C4	-7.57	106.81	110.60
48	5	2342	U	N3-C4-O4	-7.57	114.10	119.40
48	5	1176	C	C2-N3-C4	-7.57	116.12	119.90
48	5	641	C	N3-C4-N4	-7.57	112.70	118.00
48	5	3088	G	C4-C5-N7	7.57	113.83	110.80
48	5	1216	C	N1-C2-O2	-7.56	114.36	118.90
48	5	1848	G	C4-C5-N7	7.56	113.83	110.80
48	5	3154	C	N1-C2-O2	7.56	123.44	118.90
22	V	45	ARG	NE-CZ-NH1	-7.56	116.52	120.30
48	5	2395	G	N7-C8-N9	-7.56	109.32	113.10
48	5	929	A	C8-N9-C4	7.56	108.82	105.80
48	5	2726	C	N3-C4-N4	-7.56	112.71	118.00
48	5	1057	A	C5-C6-N6	-7.55	117.66	123.70
48	5	928	C	C4-C5-C6	7.55	121.17	117.40
48	5	1342	C	C2-N3-C4	-7.55	116.12	119.90
48	5	1515	A	C2-N3-C4	-7.55	106.83	110.60
48	5	1370	G	C5-C6-N1	7.54	115.27	111.50
48	5	2289	U	N1-C2-O2	7.54	128.08	122.80
48	5	2849	C	N3-C4-C5	-7.54	118.88	121.90
48	5	42	C	C4-C5-C6	-7.54	113.63	117.40
48	5	2791	G	C5-C6-O6	-7.54	124.08	128.60
48	5	2838	A	N1-C6-N6	7.54	123.12	118.60
48	5	633	C	N1-C2-O2	-7.54	114.38	118.90
48	5	1516	C	N1-C2-O2	-7.54	114.38	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	74	G	N1-C6-O6	-7.53	115.38	119.90
49	7	49	G	C5-C6-O6	-7.53	124.08	128.60
50	8	12	A	C5-N7-C8	-7.53	100.14	103.90
48	5	3081	C	N3-C4-C5	7.53	124.91	121.90
48	5	1910	A	C8-N9-C4	7.52	108.81	105.80
50	8	2	A	N9-C4-C5	7.52	108.81	105.80
48	5	3378	C	N3-C4-C5	7.51	124.91	121.90
48	5	1305	U	C5-C4-O4	-7.51	121.39	125.90
48	5	1879	A	N7-C8-N9	7.51	117.56	113.80
48	5	1389	G	N3-C2-N2	7.51	125.16	119.90
48	5	3172	A	N7-C8-N9	-7.50	110.05	113.80
48	5	2381	G	N9-C4-C5	7.50	108.40	105.40
48	5	3381	U	N3-C4-O4	-7.50	114.15	119.40
48	5	2625	C	C2-N3-C4	-7.50	116.15	119.90
48	5	2308	C	N3-C2-O2	7.50	127.15	121.90
50	8	144	G	N3-C2-N2	-7.50	114.65	119.90
48	5	622	A	N1-C6-N6	7.50	123.10	118.60
46	t	548	SER	CB-CA-C	-7.49	95.86	110.10
48	5	2179	C	C6-N1-C2	7.49	123.30	120.30
48	5	3308	C	N1-C2-O2	-7.49	114.41	118.90
48	5	2743	A	C8-N9-C4	7.49	108.80	105.80
48	5	150	A	N1-C6-N6	7.49	123.09	118.60
48	5	2693	C	N3-C4-C5	7.49	124.90	121.90
48	5	924	G	N1-C2-N2	7.49	122.94	116.20
48	5	1586	G	N3-C4-N9	7.49	130.49	126.00
48	5	2271	A	C8-N9-C4	7.49	108.79	105.80
48	5	2366	C	C5-C4-N4	-7.48	114.96	120.20
48	5	2991	A	N1-C6-N6	-7.48	114.11	118.60
48	5	400	G	C5-C6-O6	-7.47	124.12	128.60
48	5	2718	U	N1-C2-N3	7.47	119.38	114.90
48	5	2630	C	C2-N3-C4	-7.47	116.17	119.90
48	5	2341	A	N7-C8-N9	-7.47	110.06	113.80
48	5	3167	A	C8-N9-C4	-7.47	102.81	105.80
49	7	41	G	C8-N9-C4	7.47	109.39	106.40
48	5	426	G	C8-N9-C4	7.47	109.39	106.40
48	5	1144	U	N1-C2-N3	7.47	119.38	114.90
48	5	3138	U	C2-N3-C4	-7.47	122.52	127.00
48	5	1459	C	N3-C4-C5	7.46	124.89	121.90
48	5	1890	U	C4-C5-C6	7.46	124.18	119.70
48	5	3025	C	N3-C4-N4	-7.46	112.78	118.00
50	8	99	C	C6-N1-C2	7.46	123.29	120.30
50	8	14	C	C4-C5-C6	7.46	121.13	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1855	U	C2-N3-C4	-7.46	122.53	127.00
48	5	2572	C	N3-C2-O2	-7.46	116.68	121.90
48	5	1317	A	C2-N3-C4	7.45	114.33	110.60
48	5	3192	U	C5-C6-N1	-7.44	118.98	122.70
48	5	307	A	N1-C6-N6	-7.44	114.14	118.60
48	5	2908	G	C8-N9-C4	-7.43	103.43	106.40
48	5	2996	U	N1-C2-O2	7.43	128.00	122.80
48	5	3007	U	C2-N3-C4	-7.43	122.54	127.00
19	S	40	ARG	NE-CZ-NH1	7.43	124.01	120.30
48	5	2142	A	C2-N3-C4	7.43	114.31	110.60
48	5	645	A	C5-C6-N6	-7.42	117.76	123.70
48	5	2370	G	C6-N1-C2	-7.42	120.64	125.10
48	5	98	G	C5-C6-N1	7.42	115.21	111.50
48	5	971	G	C4-C5-N7	-7.42	107.83	110.80
48	5	2350	C	C4-C5-C6	7.42	121.11	117.40
48	5	1372	C	N1-C2-O2	-7.42	114.45	118.90
48	5	2245	C	C5-C6-N1	7.41	124.71	121.00
48	5	3151	U	N1-C2-N3	-7.41	110.45	114.90
48	5	1407	A	C6-N1-C2	7.41	123.05	118.60
48	5	931	C	N3-C4-C5	7.40	124.86	121.90
48	5	1205	A	C8-N9-C4	-7.40	102.84	105.80
48	5	1124	U	C5-C6-N1	7.40	126.40	122.70
48	5	2802	A	C2-N3-C4	7.40	114.30	110.60
50	8	144	G	C5-C6-O6	-7.40	124.16	128.60
48	5	1340	G	C8-N9-C4	7.40	109.36	106.40
48	5	2943	G	N3-C2-N2	7.40	125.08	119.90
48	5	1484	U	C2-N3-C4	-7.40	122.56	127.00
48	5	2621	G	N3-C2-N2	-7.40	114.72	119.90
48	5	3102	G	N1-C2-N2	-7.40	109.54	116.20
48	5	1014	U	C5-C4-O4	-7.40	121.46	125.90
48	5	2311	G	C8-N9-C4	7.39	109.36	106.40
48	5	280	U	C5-C6-N1	-7.39	119.00	122.70
48	5	2531	C	N1-C2-O2	7.39	123.33	118.90
48	5	2307	G	N3-C4-N9	7.39	130.43	126.00
49	7	41	G	N9-C4-C5	-7.39	102.44	105.40
48	5	2410	U	C4-C5-C6	-7.39	115.27	119.70
48	5	800	G	C8-N9-C4	7.38	109.35	106.40
48	5	3218	A	C4-C5-N7	7.38	114.39	110.70
48	5	2851	A	N1-C2-N3	7.38	132.99	129.30
48	5	2385	G	C4-N9-C1'	-7.38	116.90	126.50
48	5	2288	G	N3-C4-N9	7.38	130.43	126.00
49	7	96	U	N3-C2-O2	-7.38	117.04	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1449	A	C4-C5-N7	7.37	114.39	110.70
48	5	2541	U	C2-N1-C1'	7.37	126.55	117.70
48	5	2717	U	C5-C6-N1	-7.37	119.02	122.70
48	5	2743	A	N7-C8-N9	-7.37	110.11	113.80
50	8	2	A	N1-C6-N6	-7.37	114.18	118.60
48	5	2245	C	N3-C2-O2	-7.36	116.75	121.90
48	5	436	A	N1-C6-N6	7.36	123.02	118.60
48	5	2621	G	C5-C6-N1	-7.36	107.82	111.50
48	5	1117	G	C5-C6-N1	7.36	115.18	111.50
48	5	3289	G	C8-N9-C4	-7.35	103.46	106.40
20	T	130	ARG	NE-CZ-NH2	-7.35	116.62	120.30
46	t	551	GLN	N-CA-CB	7.35	123.83	110.60
48	5	1887	A	N1-C6-N6	7.35	123.01	118.60
46	t	58	GLN	N-CA-CB	7.35	123.83	110.60
48	5	795	G	N7-C8-N9	-7.35	109.43	113.10
48	5	1604	G	N3-C4-N9	7.35	130.41	126.00
48	5	2320	A	C5-C6-N1	-7.34	114.03	117.70
48	5	65	A	C8-N9-C4	-7.34	102.86	105.80
48	5	2954	U	C6-N1-C1'	-7.34	110.92	121.20
46	t	52	SER	CB-CA-C	-7.34	96.16	110.10
48	5	2810	C	N3-C2-O2	-7.34	116.76	121.90
48	5	1192	C	C4-C5-C6	7.33	121.07	117.40
48	5	957	C	C2-N3-C4	-7.33	116.23	119.90
48	5	1327	C	N3-C4-C5	7.33	124.83	121.90
46	t	17	LYS	N-CA-CB	7.33	123.79	110.60
48	5	2815	G	C8-N9-C4	7.33	109.33	106.40
48	5	1014	U	C6-N1-C1'	-7.33	110.94	121.20
48	5	2639	G	C5-C6-O6	-7.33	124.20	128.60
50	8	2	A	C5-C6-N6	7.32	129.56	123.70
48	5	834	U	C6-N1-C2	7.32	125.39	121.00
48	5	1660	C	C6-N1-C2	-7.32	117.37	120.30
48	5	1506	A	C8-N9-C4	-7.32	102.87	105.80
48	5	2942	C	C4-C5-C6	7.32	121.06	117.40
48	5	3290	G	C8-N9-C4	-7.32	103.47	106.40
48	5	652	G	N3-C2-N2	7.32	125.02	119.90
48	5	2701	U	C5-C4-O4	-7.31	121.51	125.90
48	5	2736	A	N1-C6-N6	-7.31	114.21	118.60
46	t	383	ASP	O-C-N	-7.31	111.00	122.70
48	5	2620	G	C5-C6-N1	7.31	115.16	111.50
48	5	1921	A	N1-C6-N6	7.31	122.98	118.60
48	5	2892	A	C5-C6-N6	7.31	129.55	123.70
50	8	54	A	C2-N3-C4	-7.31	106.95	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3369	G	C5-C6-O6	-7.31	124.22	128.60
48	5	2884	C	C2-N3-C4	-7.30	116.25	119.90
48	5	1506	A	N7-C8-N9	7.30	117.45	113.80
48	5	2699	G	C2-N3-C4	7.30	115.55	111.90
48	5	3131	U	N3-C4-C5	7.29	118.97	114.60
48	5	931	C	C5-C6-N1	-7.29	117.36	121.00
48	5	578	A	N1-C6-N6	7.29	122.97	118.60
48	5	1724	U	C6-N1-C2	-7.29	116.63	121.00
48	5	514	G	C4-C5-N7	7.28	113.71	110.80
48	5	3382	U	N1-C2-O2	7.28	127.90	122.80
48	5	1144	U	C5-C6-N1	-7.28	119.06	122.70
48	5	1430	U	C5-C6-N1	-7.28	119.06	122.70
48	5	1085	A	C2-N3-C4	-7.28	106.96	110.60
48	5	2370	G	C5-C6-O6	-7.28	124.23	128.60
48	5	2758	A	N9-C4-C5	7.28	108.71	105.80
48	5	3122	A	N7-C8-N9	7.28	117.44	113.80
48	5	3255	U	C5-C4-O4	-7.28	121.53	125.90
48	5	1049	C	N3-C4-C5	7.28	124.81	121.90
48	5	1833	G	N3-C2-N2	7.27	124.99	119.90
48	5	1336	U	C5-C4-O4	-7.27	121.54	125.90
48	5	1437	C	C5-C6-N1	7.27	124.64	121.00
48	5	1538	G	C8-N9-C4	7.27	109.31	106.40
32	f	18	ARG	NE-CZ-NH1	-7.27	116.67	120.30
48	5	1887	A	C2-N3-C4	-7.26	106.97	110.60
48	5	804	C	C4-C5-C6	7.26	121.03	117.40
48	5	3040	A	C5-N7-C8	7.26	107.53	103.90
48	5	924	G	N1-C6-O6	7.26	124.25	119.90
48	5	2234	G	N1-C6-O6	7.26	124.25	119.90
46	t	175	PRO	N-CD-CG	-7.25	92.32	103.20
48	5	1133	A	C5-C6-N1	7.25	121.33	117.70
48	5	2836	C	N3-C4-N4	-7.25	112.92	118.00
48	5	2848	G	N3-C2-N2	-7.25	114.82	119.90
48	5	2758	A	C8-N9-C4	-7.25	102.90	105.80
48	5	2611	U	N3-C2-O2	-7.25	117.13	122.20
48	5	3379	C	C5-C6-N1	-7.25	117.38	121.00
2	B	266	ARG	NE-CZ-NH2	-7.25	116.68	120.30
46	t	512	SER	CB-CA-C	-7.25	96.33	110.10
48	5	969	C	C2-N3-C4	-7.25	116.28	119.90
48	5	39	A	N1-C6-N6	7.24	122.95	118.60
48	5	2305	G	N9-C4-C5	-7.24	102.50	105.40
48	5	2383	C	N1-C2-O2	-7.24	114.56	118.90
48	5	3060	C	N3-C2-O2	7.24	126.97	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	283	G	C6-C5-N7	-7.24	126.06	130.40
48	5	1846	C	C4-C5-C6	7.23	121.02	117.40
49	7	104	A	N1-C6-N6	7.23	122.94	118.60
48	5	1858	A	C2-N3-C4	7.23	114.22	110.60
48	5	2148	U	C2-N3-C4	-7.23	122.66	127.00
48	5	2372	A	P-O3'-C3'	7.23	128.38	119.70
48	5	643	U	C2-N3-C4	-7.23	122.66	127.00
48	5	1189	C	N1-C2-O2	-7.23	114.56	118.90
48	5	669	U	N1-C2-N3	7.23	119.24	114.90
49	7	49	G	N3-C2-N2	-7.22	114.84	119.90
48	5	267	G	C8-N9-C4	7.22	109.29	106.40
48	5	518	G	N9-C4-C5	-7.22	102.51	105.40
48	5	594	U	N3-C2-O2	-7.22	117.15	122.20
48	5	1172	G	N1-C6-O6	-7.22	115.57	119.90
48	5	1426	C	N3-C4-C5	7.21	124.79	121.90
48	5	810	A	N1-C6-N6	-7.21	114.27	118.60
15	O	16[B]	LEU	C-N-CA	7.21	137.44	122.30
48	5	643	U	N3-C4-C5	7.21	118.93	114.60
48	5	2754	G	N1-C2-N2	-7.21	109.71	116.20
48	5	1364	C	C2-N3-C4	-7.21	116.30	119.90
48	5	1434	G	C4-C5-C6	7.21	123.13	118.80
48	5	37	U	C2-N3-C4	-7.20	122.68	127.00
48	5	2964	G	C8-N9-C4	7.20	109.28	106.40
48	5	46	U	N1-C2-O2	7.20	127.84	122.80
48	5	272	G	C8-N9-C4	7.20	109.28	106.40
48	5	1169	A	C5-C6-N1	-7.20	114.10	117.70
48	5	39	A	C4-C5-C6	7.20	120.60	117.00
48	5	1902	G	C8-N9-C4	7.20	109.28	106.40
48	5	2320	A	C4-C5-N7	-7.20	107.10	110.70
48	5	2993	G	C4-C5-N7	7.20	113.68	110.80
48	5	838	G	N1-C6-O6	-7.19	115.59	119.90
49	7	11	A	N7-C8-N9	-7.19	110.20	113.80
48	5	1518	U	N3-C4-O4	-7.19	114.37	119.40
48	5	2911	A	C2-N3-C4	7.19	114.19	110.60
48	5	1140	G	N3-C2-N2	7.19	124.93	119.90
48	5	2662	G	C8-N9-C4	-7.19	103.53	106.40
46	t	305	PRO	N-CD-CG	-7.18	92.42	103.20
48	5	419	G	N9-C4-C5	-7.18	102.53	105.40
48	5	922	U	N3-C4-O4	-7.18	114.37	119.40
46	t	240	PRO	CA-N-CD	-7.18	101.44	111.50
49	7	44	C	N1-C2-O2	-7.18	114.59	118.90
48	5	2908	G	N9-C4-C5	7.18	108.27	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1406	A	C6-N1-C2	-7.18	114.29	118.60
48	5	1167	U	C5-C4-O4	-7.17	121.59	125.90
48	5	639	G	N1-C6-O6	7.17	124.20	119.90
48	5	24	G	N1-C6-O6	7.17	124.20	119.90
48	5	2824	G	N9-C4-C5	7.17	108.27	105.40
48	5	2870	C	N3-C4-N4	-7.17	112.98	118.00
48	5	2344	U	C5-C6-N1	-7.17	119.12	122.70
48	5	3052	G	N1-C6-O6	-7.17	115.60	119.90
48	5	2244	A	N1-C6-N6	-7.17	114.30	118.60
19	S	115	ARG	NE-CZ-NH2	-7.16	116.72	120.30
48	5	2732	G	C5-C6-O6	7.16	132.90	128.60
48	5	2979	U	C6-N1-C2	7.16	125.30	121.00
48	5	563	U	N1-C2-O2	7.16	127.81	122.80
50	8	139	U	N3-C4-O4	-7.16	114.39	119.40
48	5	1407	A	C5-C6-N1	-7.15	114.12	117.70
48	5	1591	G	N1-C6-O6	-7.15	115.61	119.90
48	5	2305	G	N3-C2-N2	7.15	124.91	119.90
48	5	928	C	N1-C2-N3	7.15	124.20	119.20
48	5	960	U	N1-C2-O2	7.15	127.81	122.80
48	5	2965	U	C4-C5-C6	7.15	123.99	119.70
48	5	1209	G	N3-C2-N2	-7.15	114.90	119.90
48	5	2584	G	C6-C5-N7	-7.15	126.11	130.40
48	5	974	G	C4-N9-C1'	7.14	135.79	126.50
48	5	1004	U	N3-C4-C5	7.14	118.89	114.60
48	5	2917	G	C6-C5-N7	-7.14	126.11	130.40
48	5	580	C	C4-C5-C6	7.14	120.97	117.40
48	5	1158	A	C5-C6-N6	-7.14	117.99	123.70
48	5	2242	A	N1-C6-N6	-7.13	114.32	118.60
48	5	2149	A	C8-N9-C4	-7.13	102.95	105.80
48	5	2881	C	C5-C6-N1	-7.13	117.43	121.00
48	5	1592	G	C5-C6-O6	7.13	132.88	128.60
48	5	2616	C	C6-N1-C2	7.13	123.15	120.30
27	a	12	ARG	NE-CZ-NH2	-7.13	116.73	120.30
48	5	872	U	N3-C4-C5	7.13	118.88	114.60
48	5	3006	A	N1-C2-N3	7.13	132.87	129.30
49	7	101	G	C5-C6-O6	-7.13	124.32	128.60
16	P	69	ARG	NE-CZ-NH2	-7.13	116.74	120.30
48	5	1403	C	C5-C6-N1	-7.12	117.44	121.00
48	5	1939	G	N3-C2-N2	7.12	124.89	119.90
48	5	2280	A	C2-N3-C4	-7.12	107.04	110.60
48	5	2832	C	C2-N3-C4	-7.12	116.34	119.90
48	5	929	A	N7-C8-N9	-7.12	110.24	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2337	C	C6-N1-C2	7.12	123.15	120.30
48	5	327	A	N7-C8-N9	-7.11	110.24	113.80
48	5	1370	G	N3-C2-N2	7.11	124.88	119.90
10	J	112	LEU	CA-CB-CG	7.11	131.65	115.30
48	5	1434	G	C4-C5-N7	-7.11	107.96	110.80
48	5	577	C	C2-N3-C4	-7.10	116.35	119.90
48	5	1292	C	C6-N1-C2	7.10	123.14	120.30
48	5	3086	A	N7-C8-N9	-7.10	110.25	113.80
48	5	622	A	N9-C4-C5	-7.10	102.96	105.80
48	5	3245	A	N3-C4-C5	7.10	131.77	126.80
48	5	46	U	C5-C4-O4	7.10	130.16	125.90
48	5	2327	U	C6-N1-C2	7.10	125.26	121.00
48	5	1458	U	C2-N3-C4	-7.10	122.74	127.00
48	5	1110	U	C4-C5-C6	-7.09	115.44	119.70
48	5	3110	C	N1-C2-N3	7.09	124.17	119.20
48	5	2300	G	N3-C2-N2	7.09	124.86	119.90
48	5	2988	C	C5-C6-N1	-7.09	117.45	121.00
48	5	1548	C	C2-N3-C4	-7.09	116.35	119.90
48	5	2618	G	C6-N1-C2	-7.09	120.84	125.10
48	5	2127	U	N1-C2-N3	7.09	119.15	114.90
48	5	3076	C	N3-C4-C5	7.08	124.73	121.90
48	5	1206	G	N9-C4-C5	7.08	108.23	105.40
48	5	546	C	C5-C6-N1	7.08	124.54	121.00
48	5	2363	A	C8-N9-C4	-7.08	102.97	105.80
48	5	641	C	C6-N1-C1'	7.08	129.29	120.80
48	5	511	G	C5-C6-O6	7.07	132.84	128.60
50	8	42	G	C8-N9-C4	7.07	109.23	106.40
48	5	801	A	C5-C6-N1	-7.07	114.16	117.70
48	5	1879	A	C5-N7-C8	-7.07	100.36	103.90
48	5	384	A	C8-N9-C4	7.07	108.63	105.80
48	5	1340	G	N1-C2-N2	-7.07	109.84	116.20
48	5	859	G	N1-C6-O6	-7.06	115.67	119.90
48	5	2169	G	C5-C6-N1	7.05	115.03	111.50
48	5	3052	G	C5-C6-O6	7.05	132.83	128.60
48	5	3154	C	N3-C2-O2	-7.05	116.96	121.90
46	t	135	PRO	CA-N-CD	-7.05	101.62	111.50
48	5	418	A	N1-C6-N6	7.05	122.83	118.60
48	5	1118	C	N3-C4-C5	7.05	124.72	121.90
15	O	4[B]	GLN	O-C-N	7.05	134.49	121.10
48	5	706	A	C8-N9-C4	7.05	108.62	105.80
48	5	1328	C	C4-C5-C6	7.05	120.92	117.40
48	5	2631	U	N3-C4-C5	7.05	118.83	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2932	U	N1-C2-O2	7.05	127.73	122.80
48	5	2584	G	N3-C4-N9	7.04	130.23	126.00
48	5	2943	G	N1-C6-O6	-7.04	115.67	119.90
48	5	3005	A	N9-C4-C5	7.04	108.62	105.80
48	5	3192	U	N3-C4-O4	-7.04	114.47	119.40
48	5	2189	U	C2-N3-C4	-7.04	122.78	127.00
48	5	436	A	C6-C5-N7	-7.04	127.38	132.30
48	5	629	U	C2-N3-C4	-7.04	122.78	127.00
46	t	62	PRO	N-CD-CG	-7.03	92.65	103.20
48	5	3099	C	C5-C6-N1	-7.03	117.48	121.00
48	5	2917	G	C6-N1-C2	-7.03	120.88	125.10
48	5	1925	U	C2-N3-C4	-7.03	122.78	127.00
48	5	1389	G	C5-C6-O6	-7.03	124.38	128.60
48	5	1917	C	N1-C2-O2	-7.03	114.69	118.90
48	5	1589	A	C2-N3-C4	7.02	114.11	110.60
48	5	2396	G	N9-C4-C5	7.02	108.21	105.40
48	5	3086	A	C5-N7-C8	7.02	107.41	103.90
48	5	2942	C	N3-C4-C5	-7.02	119.09	121.90
48	5	2644	C	N1-C2-O2	-7.02	114.69	118.90
48	5	2426	U	N1-C2-O2	7.01	127.71	122.80
48	5	591	G	C4-C5-N7	7.01	113.61	110.80
48	5	708	G	N7-C8-N9	7.01	116.61	113.10
50	8	126	A	C8-N9-C4	-7.01	103.00	105.80
48	5	81	C	N3-C4-N4	-7.01	113.09	118.00
48	5	434	U	N3-C4-C5	7.01	118.80	114.60
48	5	857	G	C8-N9-C4	7.01	109.20	106.40
48	5	369	A	N7-C8-N9	7.00	117.30	113.80
48	5	3107	U	N3-C2-O2	-7.00	117.30	122.20
48	5	930	U	N3-C4-O4	-7.00	114.50	119.40
48	5	1149	G	N9-C4-C5	7.00	108.20	105.40
48	5	3333	G	C5-C6-O6	-7.00	124.40	128.60
48	5	933	A	N1-C2-N3	7.00	132.80	129.30
48	5	2293	C	N3-C4-C5	7.00	124.70	121.90
48	5	2207	A	N1-C6-N6	6.99	122.80	118.60
48	5	3182	G	N1-C6-O6	-6.99	115.71	119.90
48	5	1314	C	C2-N1-C1'	6.99	126.49	118.80
48	5	3098	G	C5-C6-O6	6.99	132.79	128.60
48	5	2350	C	C2-N3-C4	-6.98	116.41	119.90
50	8	70	G	C8-N9-C4	6.98	109.19	106.40
15	O	104[B]	ILE	O-C-N	6.98	133.86	122.70
48	5	1834	U	N3-C4-O4	-6.98	114.52	119.40
48	5	221	A	C8-N9-C4	6.97	108.59	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	945	C	C5-C6-N1	-6.97	117.51	121.00
48	5	1152	G	N1-C2-N3	6.97	128.09	123.90
48	5	2190	U	N1-C2-N3	6.97	119.08	114.90
48	5	2290	C	C6-N1-C2	6.97	123.09	120.30
48	5	1417	G	N1-C6-O6	-6.97	115.72	119.90
50	8	101	U	C6-N1-C2	-6.97	116.82	121.00
48	5	834	U	N3-C4-O4	-6.97	114.52	119.40
48	5	3214	U	N1-C2-N3	6.97	119.08	114.90
48	5	2882	U	C2-N3-C4	-6.97	122.82	127.00
48	5	1085	A	C8-N9-C4	-6.96	103.01	105.80
48	5	2618	G	N3-C4-N9	6.96	130.18	126.00
48	5	2705	A	C2-N3-C4	6.96	114.08	110.60
48	5	3317	U	C6-N1-C2	-6.96	116.82	121.00
48	5	32	U	N3-C4-C5	-6.96	110.42	114.60
48	5	784	A	C5-C6-N6	-6.96	118.13	123.70
48	5	804	C	N3-C4-C5	-6.96	119.12	121.90
48	5	1833	G	C8-N9-C4	6.96	109.18	106.40
48	5	2302	G	N1-C6-O6	-6.96	115.73	119.90
48	5	2626	A	C5-C6-N6	6.95	129.26	123.70
48	5	3218	A	C2-N3-C4	-6.95	107.12	110.60
48	5	3105	U	N3-C2-O2	6.95	127.06	122.20
48	5	1673	G	N1-C6-O6	-6.95	115.73	119.90
48	5	2249	G	C3'-C2'-C1'	-6.95	95.94	101.50
48	5	857	G	N9-C4-C5	-6.95	102.62	105.40
48	5	437	G	N7-C8-N9	6.94	116.57	113.10
31	e	33	ARG	NE-CZ-NH1	6.94	123.77	120.30
48	5	1441	G	N7-C8-N9	-6.94	109.63	113.10
48	5	3172	A	C5-N7-C8	6.94	107.37	103.90
48	5	2167	A	C6-N1-C2	-6.93	114.44	118.60
48	5	751	A	C2-N3-C4	-6.93	107.14	110.60
48	5	2184	U	C2-N3-C4	-6.93	122.84	127.00
48	5	2169	G	C6-C5-N7	6.93	134.56	130.40
48	5	802	C	C2-N3-C4	-6.92	116.44	119.90
48	5	2732	G	N3-C2-N2	6.92	124.74	119.90
50	8	112	U	C2-N1-C1'	-6.92	109.39	117.70
48	5	1210	U	N3-C2-O2	-6.92	117.36	122.20
48	5	2693	C	C2-N3-C4	-6.92	116.44	119.90
46	t	21	GLN	N-CA-CB	6.91	123.04	110.60
46	t	171	GLN	N-CA-CB	6.91	123.04	110.60
48	5	3070	A	C2-N3-C4	-6.91	107.14	110.60
48	5	1370	G	N1-C2-N2	-6.91	109.98	116.20
48	5	2917	G	N3-C4-N9	6.91	130.15	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3019	U	C2-N3-C4	-6.91	122.85	127.00
48	5	1609	C	N3-C4-N4	6.91	122.84	118.00
48	5	1285	G	C8-N9-C4	6.90	109.16	106.40
15	O	3[B]	SER	CA-C-N	-6.90	102.02	117.20
48	5	327	A	C8-N9-C4	6.90	108.56	105.80
48	5	2246	G	C8-N9-C4	-6.90	103.64	106.40
48	5	2314	U	C5-C6-N1	6.90	126.15	122.70
36	j	73	ARG	NE-CZ-NH2	-6.89	116.85	120.30
48	5	881	C	C2-N3-C4	6.89	123.35	119.90
48	5	835	G	C5-C6-N1	6.89	114.95	111.50
48	5	2631	U	C5-C6-N1	-6.89	119.25	122.70
10	J	9	MET	N-CA-C	-6.89	92.40	111.00
48	5	1513	G	N7-C8-N9	6.89	116.55	113.10
48	5	2729	U	C5-C6-N1	6.89	126.14	122.70
48	5	3362	A	C6-C5-N7	-6.89	127.48	132.30
48	5	942	U	C5-C4-O4	-6.89	121.77	125.90
48	5	1406	A	N1-C2-N3	6.89	132.74	129.30
48	5	2362	C	N3-C4-C5	6.89	124.66	121.90
48	5	3081	C	C4-C5-C6	-6.88	113.96	117.40
48	5	343	U	C5-C4-O4	6.88	130.03	125.90
48	5	833	G	C6-N1-C2	-6.88	120.97	125.10
48	5	1199	C	C4-C5-C6	6.88	120.84	117.40
48	5	2385	G	C2-N3-C4	-6.88	108.46	111.90
48	5	1868	G	C8-N9-C4	6.88	109.15	106.40
48	5	2695	A	N7-C8-N9	6.88	117.24	113.80
48	5	1652	G	N7-C8-N9	-6.87	109.66	113.10
50	8	139	U	C5-C6-N1	-6.87	119.26	122.70
46	t	532	CYS	CB-CA-C	-6.87	96.66	110.40
46	t	161	TYR	CB-CA-C	-6.87	96.67	110.40
48	5	1138	U	N3-C4-C5	6.87	118.72	114.60
48	5	3308	C	C6-N1-C2	-6.87	117.55	120.30
48	5	3362	A	C5-C6-N1	-6.87	114.27	117.70
48	5	3376	A	N7-C8-N9	6.87	117.23	113.80
48	5	2689	A	C6-N1-C2	-6.86	114.48	118.60
48	5	3101	G	C5-C6-O6	6.86	132.72	128.60
49	7	74	C	N1-C2-O2	-6.86	114.78	118.90
48	5	2389	C	C2-N3-C4	-6.86	116.47	119.90
48	5	419	G	N3-C4-N9	6.86	130.11	126.00
48	5	838	G	C5-C6-O6	6.86	132.71	128.60
48	5	2810	C	C4-C5-C6	6.86	120.83	117.40
48	5	96	G	C5-C6-O6	6.85	132.71	128.60
48	5	1417	G	C5-C6-N1	6.85	114.93	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2692	A	N1-C6-N6	-6.85	114.49	118.60
50	8	38	U	C4-C5-C6	6.85	123.81	119.70
48	5	3336	A	N1-C2-N3	6.85	132.72	129.30
48	5	41	G	C4-C5-N7	6.85	113.54	110.80
48	5	864	G	C6-N1-C2	-6.85	120.99	125.10
48	5	3176	G	N1-C2-N3	6.84	128.01	123.90
48	5	3149	G	C2-N3-C4	-6.84	108.48	111.90
48	5	1903	U	N3-C4-C5	-6.84	110.50	114.60
48	5	1940	G	N1-C6-O6	-6.84	115.80	119.90
48	5	2647	A	N1-C6-N6	-6.84	114.50	118.60
48	5	1449	A	C6-C5-N7	-6.84	127.51	132.30
48	5	1883	A	N1-C6-N6	-6.84	114.50	118.60
46	t	175	PRO	N-CA-CB	6.83	111.50	103.30
48	5	749	C	C6-N1-C2	-6.83	117.57	120.30
48	5	3313	U	C5-C4-O4	6.83	130.00	125.90
48	5	1057	A	N9-C4-C5	-6.83	103.07	105.80
48	5	1297	C	N1-C2-O2	-6.83	114.80	118.90
48	5	693	A	N1-C6-N6	-6.83	114.50	118.60
48	5	2341	A	N9-C4-C5	-6.83	103.07	105.80
48	5	2987	A	C5-N7-C8	6.83	107.32	103.90
48	5	2401	A	C2-N3-C4	6.83	114.01	110.60
48	5	1307	G	C2-N3-C4	6.83	115.31	111.90
48	5	2619	G	C5-C6-O6	-6.83	124.50	128.60
48	5	3056	U	N1-C2-N3	6.83	119.00	114.90
48	5	1902	G	C6-N1-C2	-6.82	121.01	125.10
48	5	2884	C	N1-C2-O2	-6.82	114.81	118.90
48	5	1941	C	N3-C4-C5	6.82	124.63	121.90
48	5	1603	A	C8-N9-C4	-6.82	103.07	105.80
3	C	90	PHE	C-N-CA	-6.82	107.98	122.30
48	5	1448	U	C2-N3-C4	-6.82	122.91	127.00
49	7	22	A	N1-C6-N6	6.82	122.69	118.60
48	5	578	A	C5-C6-N6	-6.82	118.25	123.70
48	5	2400	G	N3-C4-C5	6.82	132.01	128.60
48	5	2412	G	N3-C4-C5	-6.82	125.19	128.60
48	5	2908	G	C5-C6-O6	6.82	132.69	128.60
48	5	644	G	C8-N9-C4	-6.81	103.67	106.40
48	5	2821	C	C6-N1-C2	-6.81	117.57	120.30
48	5	1875	G	N1-C6-O6	-6.81	115.81	119.90
48	5	2524	A	C3'-C2'-C1'	-6.81	96.05	101.50
50	8	23	U	N1-C2-N3	6.81	118.98	114.90
48	5	2824	G	C4-C5-N7	-6.81	108.08	110.80
48	5	3076	C	C2-N3-C4	-6.81	116.50	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	p	17	ARG	NE-CZ-NH1	-6.80	116.90	120.30
48	5	1941	C	C2-N3-C4	-6.80	116.50	119.90
48	5	1421	G	C2-N3-C4	-6.80	108.50	111.90
48	5	2279	A	N1-C2-N3	6.80	132.70	129.30
48	5	189	G	N1-C6-O6	-6.80	115.82	119.90
48	5	518	G	C4-C5-N7	6.80	113.52	110.80
49	7	112	G	C5-C6-O6	6.80	132.68	128.60
46	t	357	PRO	N-CD-CG	-6.80	93.00	103.20
48	5	564	G	C4-C5-N7	-6.80	108.08	110.80
48	5	644	G	N3-C4-C5	-6.80	125.20	128.60
48	5	3020	U	N1-C2-O2	-6.80	118.04	122.80
48	5	1327	C	N3-C2-O2	-6.79	117.14	121.90
48	5	1481	A	P-O3'-C3'	6.79	127.85	119.70
48	5	2932	U	N3-C2-O2	-6.79	117.44	122.20
48	5	3374	U	N3-C4-O4	-6.79	114.64	119.40
48	5	2382	G	N1-C6-O6	-6.79	115.83	119.90
48	5	2524	A	C4-C5-N7	6.79	114.09	110.70
48	5	146	U	C5-C4-O4	6.79	129.97	125.90
48	5	1113	G	N3-C4-C5	6.79	132.00	128.60
48	5	1205	A	N7-C8-N9	6.79	117.19	113.80
9	I	48	LEU	CA-CB-CG	6.79	130.91	115.30
48	5	887	G	C2-N3-C4	-6.79	108.51	111.90
48	5	1375	G	C2-N3-C4	6.79	115.29	111.90
48	5	2237	C	N1-C2-O2	6.79	122.97	118.90
48	5	3185	U	C5-C6-N1	-6.78	119.31	122.70
48	5	413	U	C4-C5-C6	6.78	123.77	119.70
48	5	3088	G	N3-C2-N2	6.78	124.65	119.90
48	5	1044	U	C5-C6-N1	-6.78	119.31	122.70
48	5	2317	A	N7-C8-N9	6.78	117.19	113.80
48	5	2730	G	C2-N3-C4	-6.78	108.51	111.90
49	7	50	U	C5-C6-N1	6.78	126.09	122.70
48	5	622	A	C5-C6-N6	-6.78	118.28	123.70
48	5	815	G	C4-C5-N7	-6.78	108.09	110.80
48	5	3324	C	C6-N1-C2	6.78	123.01	120.30
48	5	63	A	N1-C6-N6	6.77	122.66	118.60
48	5	652	G	C6-N1-C2	-6.77	121.04	125.10
48	5	888	A	C5-C6-N1	-6.77	114.31	117.70
48	5	48	A	C8-N9-C4	-6.77	103.09	105.80
48	5	615	U	C5-C4-O4	-6.77	121.84	125.90
48	5	2929	C	N1-C2-O2	-6.77	114.84	118.90
46	t	62	PRO	N-CA-CB	6.77	111.42	103.30
48	5	3321	C	C4-C5-C6	6.77	120.78	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1910	A	N7-C8-N9	-6.76	110.42	113.80
48	5	2978	U	N3-C4-O4	-6.76	114.66	119.40
49	7	49	G	C8-N9-C4	6.76	109.11	106.40
48	5	669	U	C2-N3-C4	-6.76	122.94	127.00
48	5	1042	U	C5-C4-O4	6.76	129.96	125.90
48	5	1124	U	N1-C2-O2	6.76	127.53	122.80
48	5	1369	A	C8-N9-C4	6.76	108.50	105.80
48	5	2359	C	C6-N1-C2	6.76	123.00	120.30
48	5	934	G	C2-N3-C4	6.76	115.28	111.90
48	5	1843	C	N3-C2-O2	-6.76	117.17	121.90
48	5	215	G	C8-N9-C4	-6.75	103.70	106.40
48	5	1389	G	C6-C5-N7	-6.75	126.35	130.40
48	5	376	G	C2-N3-C4	6.75	115.28	111.90
48	5	908	G	C4-N9-C1'	6.75	135.28	126.50
46	t	388	TYR	CB-CA-C	-6.75	96.90	110.40
48	5	2584	G	C8-N9-C1'	-6.75	118.22	127.00
48	5	95	A	C5-C6-N6	-6.75	118.30	123.70
48	5	1206	G	C8-N9-C4	-6.75	103.70	106.40
48	5	2892	A	N9-C4-C5	6.75	108.50	105.80
48	5	1882	G	C4-C5-N7	-6.75	108.10	110.80
48	5	2868	U	N3-C4-C5	6.75	118.65	114.60
48	5	205	C	N3-C2-O2	-6.75	117.18	121.90
19	S	40	ARG	CG-CD-NE	6.74	125.96	111.80
48	5	776	U	N3-C4-O4	-6.74	114.68	119.40
48	5	2693	C	N1-C2-O2	6.74	122.95	118.90
48	5	2145	A	N1-C6-N6	-6.74	114.56	118.60
48	5	2664	C	N3-C4-C5	6.74	124.60	121.90
48	5	3375	A	C2-N3-C4	6.74	113.97	110.60
48	5	345	G	N1-C2-N2	-6.74	110.13	116.20
48	5	1556	C	C6-N1-C2	-6.74	117.60	120.30
48	5	1116	G	N9-C4-C5	6.74	108.09	105.40
48	5	587	U	N3-C4-C5	6.74	118.64	114.60
49	7	11	A	C5-N7-C8	6.74	107.27	103.90
48	5	614	C	C6-N1-C2	6.73	122.99	120.30
48	5	3309	G	C5-C6-O6	-6.73	124.56	128.60
48	5	1685	C	N3-C2-O2	-6.73	117.19	121.90
48	5	1130	A	N1-C2-N3	-6.73	125.94	129.30
48	5	3140	G	C5-C6-O6	-6.73	124.56	128.60
48	5	1197	A	N1-C2-N3	6.72	132.66	129.30
48	5	2961	G	C5-C6-O6	6.72	132.63	128.60
48	5	2135	U	C6-N1-C2	6.72	125.03	121.00
46	t	546	GLN	N-CA-CB	6.72	122.69	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3050	U	N3-C4-O4	-6.72	114.70	119.40
48	5	620	U	C5-C6-N1	6.71	126.06	122.70
48	5	2820	A	C6-N1-C2	-6.71	114.57	118.60
48	5	3266	G	N1-C6-O6	-6.71	115.87	119.90
48	5	3140	G	N1-C6-O6	6.71	123.93	119.90
48	5	890	C	N3-C4-C5	6.71	124.58	121.90
48	5	3128	G	C5-C6-O6	-6.71	124.57	128.60
48	5	1392	G	N9-C4-C5	-6.71	102.72	105.40
48	5	3214	U	N1-C2-O2	6.71	127.50	122.80
48	5	1469	C	C6-N1-C2	-6.71	117.62	120.30
48	5	1652	G	C5-N7-C8	6.71	107.65	104.30
48	5	2391	G	N7-C8-N9	6.71	116.45	113.10
48	5	2434	U	C5-C4-O4	6.71	129.93	125.90
48	5	2411	U	N3-C4-O4	-6.71	114.71	119.40
48	5	436	A	N7-C8-N9	6.70	117.15	113.80
48	5	960	U	N3-C2-O2	-6.70	117.51	122.20
48	5	1056	U	N3-C4-O4	6.70	124.09	119.40
48	5	2899	C	C4-C5-C6	6.70	120.75	117.40
48	5	413	U	C5-C6-N1	-6.70	119.35	122.70
48	5	649	A	C8-N9-C4	-6.70	103.12	105.80
48	5	1208	U	C5-C6-N1	-6.70	119.35	122.70
48	5	1409	G	C5-C6-O6	6.70	132.62	128.60
50	8	25	G	C5-C6-O6	6.70	132.62	128.60
48	5	1686	U	C5-C4-O4	-6.70	121.88	125.90
48	5	2403	G	C5-N7-C8	6.70	107.65	104.30
1	A	246	LEU	CA-CB-CG	6.69	130.70	115.30
48	5	2407	C	C5-C4-N4	-6.69	115.51	120.20
48	5	3049	A	C6-N1-C2	6.69	122.61	118.60
48	5	2392	C	N1-C2-O2	-6.69	114.89	118.90
48	5	930	U	C4-C5-C6	-6.69	115.69	119.70
48	5	1134	G	C5-C6-N1	6.69	114.84	111.50
48	5	2767	U	C5-C4-O4	6.69	129.91	125.90
48	5	1392	G	C5-N7-C8	6.69	107.64	104.30
48	5	3333	G	N1-C6-O6	6.69	123.91	119.90
13	M	72	LEU	CA-CB-CG	6.68	130.67	115.30
48	5	1496	C	C2-N1-C1'	6.68	126.15	118.80
48	5	2201	G	N1-C6-O6	-6.68	115.89	119.90
48	5	2231	C	C4-C5-C6	6.68	120.74	117.40
48	5	332	C	C4-C5-C6	6.68	120.74	117.40
48	5	3138	U	N1-C2-N3	6.68	118.91	114.90
48	5	1844	C	N1-C2-O2	-6.68	114.89	118.90
48	5	2717	U	N1-C2-N3	6.67	118.91	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2830	G	C4-C5-N7	-6.67	108.13	110.80
48	5	3039	C	C6-N1-C2	-6.67	117.63	120.30
48	5	1042	U	N1-C2-O2	6.67	127.47	122.80
48	5	1004	U	N3-C2-O2	-6.66	117.54	122.20
48	5	400	G	C4-C5-N7	6.66	113.47	110.80
48	5	355	A	N1-C2-N3	6.66	132.63	129.30
48	5	669	U	C4-C5-C6	6.66	123.70	119.70
12	L	171	ARG	NE-CZ-NH2	-6.66	116.97	120.30
48	5	1911	A	C5-C6-N6	-6.66	118.37	123.70
48	5	1159	A	N1-C2-N3	-6.66	125.97	129.30
48	5	2336	U	N3-C4-O4	-6.66	114.74	119.40
48	5	792	G	N1-C2-N3	6.66	127.89	123.90
48	5	835	G	C6-N1-C2	-6.66	121.11	125.10
48	5	925	A	C4-C5-C6	6.66	120.33	117.00
50	8	42	G	C4-N9-C1'	-6.66	117.85	126.50
48	5	1518	U	N3-C4-C5	6.65	118.59	114.60
46	t	357	PRO	N-CA-CB	6.65	111.28	103.30
48	5	625	G	N9-C4-C5	6.65	108.06	105.40
48	5	986	U	N3-C4-O4	6.65	124.06	119.40
48	5	2699	G	N1-C6-O6	6.65	123.89	119.90
48	5	3335	A	C2-N3-C4	-6.65	107.28	110.60
48	5	1146	C	N3-C2-O2	-6.65	117.25	121.90
49	7	92	A	C5-N7-C8	-6.65	100.58	103.90
46	t	56	GLN	CB-CA-C	-6.64	97.11	110.40
48	5	640	U	N3-C2-O2	-6.64	117.55	122.20
48	5	1848	G	C6-C5-N7	-6.64	126.42	130.40
48	5	1359	C	C5-C4-N4	-6.64	115.55	120.20
48	5	2207	A	C6-C5-N7	-6.64	127.65	132.30
48	5	2920	U	C2-N3-C4	-6.64	123.02	127.00
50	8	11	C	C4-C5-C6	6.64	120.72	117.40
48	5	916	G	C8-N9-C4	-6.63	103.75	106.40
48	5	1159	A	C4-C5-N7	6.63	114.02	110.70
48	5	2422	C	N1-C2-O2	6.63	122.88	118.90
48	5	226	C	N3-C4-C5	6.63	124.55	121.90
48	5	322	U	C5-C4-O4	-6.63	121.92	125.90
48	5	1312	C	C6-N1-C2	-6.63	117.65	120.30
48	5	1931	U	N3-C4-O4	-6.63	114.76	119.40
48	5	3376	A	N9-C4-C5	6.63	108.45	105.80
48	5	3244	A	C2-N3-C4	-6.62	107.29	110.60
48	5	3310	A	N1-C6-N6	-6.62	114.63	118.60
48	5	2292	U	C2-N1-C1'	6.62	125.64	117.70
48	5	518	G	N1-C6-O6	6.62	123.87	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1788	C	N3-C4-C5	-6.62	119.25	121.90
48	5	3216	G	C6-C5-N7	-6.62	126.43	130.40
46	t	50	TYR	CB-CA-C	-6.61	97.17	110.40
48	5	1754	G	N1-C6-O6	-6.61	115.93	119.90
48	5	2851	A	C8-N9-C4	6.61	108.45	105.80
48	5	2743	A	C5-N7-C8	6.61	107.21	103.90
48	5	2549	G	C6-C5-N7	-6.61	126.43	130.40
48	5	3122	A	C4-C5-C6	6.61	120.31	117.00
48	5	652	G	N1-C2-N3	6.61	127.87	123.90
9	I	10	ARG	NE-CZ-NH1	-6.61	117.00	120.30
48	5	2147	A	N1-C6-N6	6.61	122.56	118.60
48	5	2647	A	C8-N9-C4	-6.61	103.16	105.80
48	5	3025	C	C5-C4-N4	6.60	124.82	120.20
46	t	513	SER	CB-CA-C	-6.60	97.56	110.10
48	5	2169	G	C2-N3-C4	6.60	115.20	111.90
48	5	1049	C	C4-C5-C6	-6.60	114.10	117.40
48	5	1151	U	C4-C5-C6	-6.60	115.74	119.70
48	5	2719	U	C6-N1-C1'	6.60	130.44	121.20
48	5	2114	C	C6-N1-C2	-6.60	117.66	120.30
48	5	3105	U	N1-C2-O2	-6.60	118.18	122.80
48	5	2675	C	N1-C2-O2	-6.60	114.94	118.90
48	5	2685	C	C2-N3-C4	-6.60	116.60	119.90
48	5	3153	U	N1-C2-O2	6.60	127.42	122.80
48	5	692	A	N1-C2-N3	-6.59	126.00	129.30
48	5	1007	U	C5-C6-N1	-6.59	119.40	122.70
49	7	25	G	N1-C6-O6	6.59	123.86	119.90
3	C	138	ARG	NE-CZ-NH2	-6.59	117.00	120.30
48	5	2954	U	C2-N1-C1'	6.59	125.61	117.70
48	5	1876	U	C5-C6-N1	6.59	126.00	122.70
48	5	3289	G	N7-C8-N9	6.59	116.39	113.10
48	5	3303	G	N3-C2-N2	6.59	124.51	119.90
48	5	648	C	C6-N1-C2	-6.59	117.67	120.30
48	5	828	A	N3-C4-C5	-6.59	122.19	126.80
48	5	2357	A	N1-C6-N6	6.59	122.55	118.60
48	5	3007	U	N3-C4-C5	6.59	118.55	114.60
48	5	1365	G	C8-N9-C1'	-6.58	118.44	127.00
48	5	2617	U	N3-C4-O4	-6.58	114.79	119.40
48	5	3270	U	N3-C4-O4	-6.58	114.79	119.40
48	5	2440	G	N7-C8-N9	6.58	116.39	113.10
48	5	990	U	N3-C2-O2	-6.58	117.59	122.20
48	5	1151	U	N3-C4-C5	6.58	118.55	114.60
48	5	1408	G	N3-C4-N9	-6.58	122.05	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2811	A	C6-N1-C2	-6.58	114.65	118.60
50	8	54	A	C5-N7-C8	-6.58	100.61	103.90
48	5	2889	C	N3-C2-O2	-6.58	117.30	121.90
50	8	24	G	N1-C6-O6	-6.58	115.95	119.90
48	5	267	G	N9-C4-C5	-6.57	102.77	105.40
48	5	966	U	C2-N3-C4	-6.57	123.06	127.00
48	5	1439	U	C2-N3-C4	-6.57	123.06	127.00
48	5	2984	C	C2-N3-C4	-6.57	116.62	119.90
49	7	57	G	C4-C5-N7	-6.56	108.17	110.80
48	5	2347	U	N3-C4-O4	-6.56	114.81	119.40
49	7	68	C	C2-N3-C4	-6.56	116.62	119.90
48	5	2800	G	N9-C4-C5	6.56	108.02	105.40
48	5	1894	U	C2-N3-C4	-6.55	123.07	127.00
50	8	6	U	C5-C6-N1	-6.55	119.42	122.70
48	5	424	G	N3-C2-N2	6.55	124.49	119.90
48	5	2866	U	N1-C2-O2	-6.55	118.22	122.80
48	5	1906	G	N1-C2-N3	6.55	127.83	123.90
49	7	93	C	C4-C5-C6	6.55	120.67	117.40
48	5	641	C	C2-N1-C1'	-6.55	111.60	118.80
48	5	1399	A	C8-N9-C4	6.55	108.42	105.80
48	5	361	A	N1-C6-N6	-6.55	114.67	118.60
48	5	1448	U	N1-C2-O2	-6.54	118.22	122.80
48	5	1890	U	C5-C6-N1	-6.54	119.43	122.70
48	5	429	U	N3-C4-C5	6.54	118.53	114.60
48	5	600	G	N7-C8-N9	6.54	116.37	113.10
48	5	859	G	N9-C4-C5	6.54	108.02	105.40
48	5	1161	G	N7-C8-N9	-6.54	109.83	113.10
48	5	1215	U	N3-C4-O4	6.54	123.98	119.40
48	5	1342	C	C4-C5-C6	6.54	120.67	117.40
48	5	3186	A	N9-C4-C5	6.54	108.42	105.80
48	5	947	G	N1-C6-O6	-6.54	115.98	119.90
48	5	2211	U	C5-C6-N1	-6.54	119.43	122.70
48	5	2314	U	C2-N1-C1'	6.54	125.55	117.70
48	5	2377	G	C2-N3-C4	6.54	115.17	111.90
48	5	3115	C	N1-C2-O2	-6.54	114.97	118.90
48	5	783	A	N1-C6-N6	6.54	122.52	118.60
48	5	145	G	N3-C4-N9	-6.54	122.08	126.00
9	I	182	LEU	CA-CB-CG	-6.54	100.27	115.30
48	5	815	G	C5-C6-O6	6.54	132.52	128.60
48	5	1722	U	N3-C2-O2	6.54	126.78	122.20
48	5	2301	U	C5-C6-N1	-6.54	119.43	122.70
48	5	1298	C	N1-C2-O2	-6.53	114.98	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	420	G	N3-C4-C5	-6.53	125.33	128.60
46	t	385	GLN	N-CA-CB	6.53	122.36	110.60
48	5	2303	A	N3-C4-C5	-6.53	122.23	126.80
48	5	2626	A	C5-C6-N1	-6.53	114.44	117.70
48	5	2833	A	C8-N9-C4	6.53	108.41	105.80
48	5	3330	A	N1-C6-N6	-6.53	114.68	118.60
48	5	2257	C	N3-C2-O2	-6.53	117.33	121.90
48	5	3263	G	N3-C2-N2	6.53	124.47	119.90
48	5	2930	A	N1-C6-N6	-6.52	114.69	118.60
48	5	3190	C	C6-N1-C2	-6.52	117.69	120.30
48	5	1901	A	C4-C5-C6	6.52	120.26	117.00
48	5	1211	U	N3-C4-C5	6.52	118.51	114.60
49	7	20	A	C5-C6-N6	-6.52	118.48	123.70
48	5	1131	G	C2-N3-C4	-6.52	108.64	111.90
48	5	2309	A	N1-C2-N3	-6.52	126.04	129.30
46	t	57	ARG	N-CA-CB	6.51	122.33	110.60
48	5	1064	A	C4-C5-N7	6.51	113.96	110.70
48	5	2884	C	N1-C2-N3	6.51	123.76	119.20
48	5	721	G	C5-C6-N1	6.51	114.76	111.50
48	5	1215	U	N1-C2-O2	-6.51	118.24	122.80
48	5	2626	A	C4-C5-N7	-6.51	107.44	110.70
48	5	880	G	C5-C6-O6	-6.51	124.69	128.60
48	5	2993	G	N9-C4-C5	-6.51	102.80	105.40
48	5	675	C	N3-C4-N4	6.51	122.56	118.00
48	5	1607	U	N1-C2-N3	6.51	118.81	114.90
48	5	360	G	C8-N9-C4	6.51	109.00	106.40
32	f	49	ILE	CB-CA-C	-6.51	98.59	111.60
48	5	784	A	C6-C5-N7	-6.50	127.75	132.30
48	5	1200	A	C4-C5-C6	6.50	120.25	117.00
48	5	2957	G	C8-N9-C4	6.50	109.00	106.40
48	5	3341	U	C6-N1-C2	-6.50	117.10	121.00
48	5	345	G	N3-C2-N2	6.50	124.45	119.90
48	5	1879	A	C4-C5-N7	6.50	113.95	110.70
48	5	3174	A	C4-C5-N7	6.50	113.95	110.70
48	5	1138	U	C2-N3-C4	-6.50	123.10	127.00
48	5	2385	G	C8-N9-C4	6.50	109.00	106.40
48	5	3306	U	C6-N1-C2	6.50	124.90	121.00
48	5	2433	U	N3-C4-C5	6.50	118.50	114.60
48	5	3004	C	C5-C4-N4	-6.49	115.65	120.20
48	5	435	C	C2-N3-C4	-6.49	116.65	119.90
48	5	2258	U	N3-C2-O2	-6.49	117.66	122.20
48	5	2719	U	C5-C6-N1	-6.49	119.46	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2246	G	N3-C4-C5	-6.49	125.36	128.60
48	5	2351	U	N3-C4-O4	-6.49	114.86	119.40
48	5	3306	U	C5-C6-N1	-6.49	119.46	122.70
48	5	2904	U	C5-C6-N1	-6.48	119.46	122.70
50	8	59	A	C2-N3-C4	6.48	113.84	110.60
48	5	3126	C	N3-C4-C5	6.48	124.49	121.90
48	5	1496	C	C6-N1-C2	-6.48	117.71	120.30
48	5	3148	U	C5-C4-O4	-6.48	122.01	125.90
48	5	3175	U	N3-C4-C5	-6.48	110.71	114.60
48	5	2320	A	C5-N7-C8	6.48	107.14	103.90
48	5	519	A	C5-C6-N6	-6.48	118.52	123.70
48	5	369	A	N9-C4-C5	6.47	108.39	105.80
48	5	779	G	C8-N9-C4	-6.47	103.81	106.40
50	8	19	C	C4-C5-C6	6.47	120.64	117.40
48	5	828	A	C2-N3-C4	6.47	113.84	110.60
15	O	27[B]	VAL	C-N-CA	6.47	137.87	121.70
48	5	1840	U	C5-C6-N1	-6.47	119.47	122.70
48	5	2631	U	N1-C2-N3	6.47	118.78	114.90
48	5	1843	C	C2-N1-C1'	6.47	125.91	118.80
48	5	370	U	N3-C2-O2	-6.46	117.67	122.20
48	5	386	A	C6-C5-N7	-6.46	127.78	132.30
48	5	894	G	C5-C6-O6	-6.46	124.72	128.60
2	B	21	ARG	NE-CZ-NH1	6.46	123.53	120.30
48	5	971	G	N1-C2-N2	6.46	122.01	116.20
48	5	1897	G	C5-C6-O6	-6.46	124.72	128.60
48	5	1147	G	N7-C8-N9	-6.46	109.87	113.10
48	5	1392	G	C8-N9-C1'	-6.46	118.61	127.00
48	5	1408	G	N3-C4-C5	6.46	131.83	128.60
30	d	90	PHE	CB-CA-C	-6.46	97.49	110.40
48	5	1215	U	C5-C4-O4	-6.46	122.03	125.90
48	5	370	U	C6-N1-C2	-6.46	117.13	121.00
48	5	884	A	N3-C4-N9	-6.46	122.24	127.40
48	5	1042	U	C5-C6-N1	-6.46	119.47	122.70
48	5	2345	A	C5-C6-N6	-6.46	118.54	123.70
48	5	284	A	C2-N3-C4	6.45	113.83	110.60
48	5	1284	C	C6-N1-C2	-6.45	117.72	120.30
48	5	1434	G	C8-N9-C4	6.45	108.98	106.40
48	5	1516	C	C5-C6-N1	-6.45	117.77	121.00
48	5	1844	C	C2-N3-C4	-6.45	116.67	119.90
48	5	2817	A	C6-N1-C2	-6.45	114.73	118.60
48	5	2754	G	N3-C2-N2	6.45	124.42	119.90
48	5	2849	C	C5-C6-N1	6.45	124.22	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1851	G	C4-C5-C6	6.45	122.67	118.80
48	5	2662	G	C3'-C2'-C1'	-6.45	96.34	101.50
49	7	92	A	C4-C5-N7	6.45	113.92	110.70
50	8	28	C	N3-C4-C5	6.45	124.48	121.90
48	5	3043	C	N3-C4-C5	6.45	124.48	121.90
48	5	1190	A	C5-C6-N6	6.45	128.86	123.70
48	5	2365	C	C5-C4-N4	6.45	124.71	120.20
49	7	38	U	C6-N1-C1'	-6.44	112.18	121.20
50	8	17	A	C4-C5-N7	6.44	113.92	110.70
48	5	299	G	C2-N3-C4	6.44	115.12	111.90
48	5	2518	C	C5-C6-N1	-6.44	117.78	121.00
48	5	3306	U	N3-C4-C5	6.44	118.46	114.60
48	5	2891	U	C5-C6-N1	-6.44	119.48	122.70
48	5	950	G	N3-C2-N2	6.44	124.41	119.90
48	5	2288	G	N3-C4-C5	-6.44	125.38	128.60
48	5	2305	G	C4-C5-N7	6.44	113.38	110.80
48	5	2363	A	C2-N3-C4	6.44	113.82	110.60
31	e	45	ARG	NE-CZ-NH1	6.44	123.52	120.30
48	5	2124	G	C8-N9-C4	6.44	108.97	106.40
48	5	2396	G	N3-C4-C5	-6.44	125.38	128.60
48	5	2746	A	C8-N9-C4	6.44	108.37	105.80
48	5	2288	G	C5-C6-O6	-6.43	124.74	128.60
48	5	2320	A	N1-C2-N3	6.43	132.52	129.30
48	5	3167	A	N7-C8-N9	6.43	117.02	113.80
49	7	15	C	N3-C4-C5	6.43	124.47	121.90
48	5	1793	C	C2-N3-C4	6.43	123.12	119.90
48	5	2817	A	N3-C4-C5	-6.43	122.30	126.80
48	5	290	G	N3-C2-N2	6.43	124.40	119.90
48	5	824	C	C4-C5-C6	6.43	120.61	117.40
48	5	1929	G	C8-N9-C4	6.43	108.97	106.40
48	5	2677	G	N3-C2-N2	-6.43	115.40	119.90
48	5	3006	A	N3-C4-N9	-6.43	122.26	127.40
48	5	2302	G	N1-C2-N2	-6.43	110.42	116.20
14	N	68	ARG	NE-CZ-NH1	6.42	123.51	120.30
40	n	9	ARG	NE-CZ-NH2	-6.42	117.09	120.30
48	5	2340	U	C2-N3-C4	-6.42	123.14	127.00
48	5	1413	G	N1-C6-O6	-6.42	116.05	119.90
48	5	3354	U	N3-C2-O2	-6.42	117.71	122.20
48	5	217	U	C5-C6-N1	-6.42	119.49	122.70
48	5	343	U	C5-C6-N1	-6.42	119.49	122.70
48	5	963	G	C5-C6-O6	-6.42	124.75	128.60
48	5	1403	C	N3-C4-N4	6.42	122.49	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2375	G	C5-C6-N1	6.42	114.71	111.50
48	5	1149	G	N1-C2-N3	-6.41	120.05	123.90
48	5	3011	A	N1-C2-N3	-6.41	126.09	129.30
48	5	651	G	C8-N9-C4	-6.41	103.84	106.40
48	5	1402	C	C4-C5-C6	6.41	120.61	117.40
48	5	1907	C	N1-C2-O2	-6.41	115.06	118.90
48	5	393	U	N3-C2-O2	-6.41	117.72	122.20
48	5	1390	A	C5-C6-N6	6.41	128.83	123.70
48	5	3174	A	C5-N7-C8	-6.41	100.70	103.90
4	D	152	ARG	NE-CZ-NH1	6.41	123.50	120.30
48	5	943	U	C5-C6-N1	-6.41	119.50	122.70
48	5	2361	A	C8-N9-C4	-6.41	103.24	105.80
48	5	2389	C	N3-C4-C5	6.41	124.46	121.90
46	t	519	ARG	N-CA-CB	6.40	122.12	110.60
48	5	1115	G	C4-N9-C1'	6.40	134.82	126.50
48	5	2611	U	C4-C5-C6	6.40	123.54	119.70
48	5	2837	A	C2-N3-C4	6.40	113.80	110.60
49	7	1	G	C4-N9-C1'	6.40	134.82	126.50
49	7	40	C	N1-C2-O2	-6.40	115.06	118.90
15	O	23[B]	ILE	O-C-N	6.40	132.94	122.70
48	5	1749	A	C8-N9-C4	6.40	108.36	105.80
48	5	2879	C	N1-C2-O2	6.40	122.74	118.90
48	5	436	A	C4-N9-C1'	6.39	137.81	126.30
48	5	1172	G	N3-C2-N2	6.39	124.38	119.90
48	5	2408	U	N1-C2-N3	6.39	118.74	114.90
48	5	938	C	C6-N1-C2	6.39	122.86	120.30
48	5	1407	A	C8-N9-C4	6.39	108.36	105.80
48	5	1449	A	C5-C6-N1	-6.39	114.50	117.70
50	8	29	U	C2-N3-C4	-6.39	123.17	127.00
18	R	88	ARG	NE-CZ-NH1	-6.39	117.11	120.30
49	7	12	U	N3-C4-C5	6.39	118.43	114.60
48	5	2753	G	N3-C2-N2	-6.38	115.43	119.90
48	5	3303	G	N1-C2-N2	-6.38	110.45	116.20
48	5	42	C	C5-C6-N1	6.38	124.19	121.00
50	8	111	A	C2-N3-C4	-6.38	107.41	110.60
48	5	909	G	C4-C5-N7	-6.38	108.25	110.80
48	5	1902	G	N3-C4-N9	6.38	129.82	126.00
27	a	28	HIS	N-CA-C	6.37	128.21	111.00
48	5	624	G	C8-N9-C4	6.37	108.95	106.40
48	5	1340	G	N3-C2-N2	6.37	124.36	119.90
48	5	2431	C	N3-C4-C5	-6.37	119.35	121.90
48	5	2117	A	N1-C6-N6	-6.37	114.78	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2857	C	C6-N1-C2	6.37	122.85	120.30
50	8	29	U	N1-C2-N3	6.37	118.72	114.90
48	5	1518	U	N1-C2-O2	6.37	127.26	122.80
48	5	2821	C	C5-C6-N1	6.37	124.18	121.00
46	t	436	PRO	CA-N-CD	-6.37	102.59	111.50
48	5	2134	G	N3-C4-C5	-6.37	125.42	128.60
48	5	3309	G	C6-N1-C2	-6.37	121.28	125.10
48	5	631	U	N3-C4-C5	6.36	118.42	114.60
48	5	891	G	C5-C6-O6	6.36	132.42	128.60
48	5	584	G	C5-C6-O6	6.36	132.42	128.60
48	5	1496	C	C5-C6-N1	6.36	124.18	121.00
48	5	1416	C	N3-C2-O2	-6.36	117.45	121.90
48	5	833	G	N1-C2-N3	6.35	127.71	123.90
48	5	652	G	N3-C4-N9	6.35	129.81	126.00
48	5	2139	A	C5-N7-C8	6.35	107.08	103.90
49	7	48	U	N3-C4-C5	6.35	118.41	114.60
4	D	248	ARG	NE-CZ-NH2	-6.35	117.12	120.30
17	Q	176	ARG	NE-CZ-NH2	-6.35	117.13	120.30
48	5	1733	G	N1-C6-O6	6.35	123.71	119.90
48	5	676	G	C8-N9-C4	-6.35	103.86	106.40
48	5	1321	G	C5-C6-N1	-6.35	108.33	111.50
48	5	1832	C	C2-N3-C4	-6.35	116.73	119.90
48	5	1833	G	N7-C8-N9	-6.35	109.93	113.10
48	5	674	G	C8-N9-C4	-6.35	103.86	106.40
48	5	2894	C	N3-C4-C5	6.34	124.44	121.90
48	5	1403	C	C6-N1-C1'	-6.34	113.19	120.80
48	5	1408	G	C2-N3-C4	-6.34	108.73	111.90
48	5	2802	A	N1-C2-N3	-6.34	126.13	129.30
48	5	600	G	C8-N9-C4	-6.34	103.86	106.40
48	5	645	A	C5-C6-N1	6.34	120.87	117.70
48	5	722	G	N9-C4-C5	6.34	107.94	105.40
48	5	2364	G	C5-C6-O6	6.34	132.40	128.60
48	5	667	C	N3-C4-C5	6.34	124.44	121.90
48	5	1211	U	C4-C5-C6	-6.34	115.90	119.70
48	5	2146	C	C6-N1-C2	-6.34	117.77	120.30
48	5	3309	G	C4-N9-C1'	6.34	134.74	126.50
31	e	47	ARG	NE-CZ-NH2	-6.33	117.13	120.30
48	5	1300	G	C5-C6-O6	-6.33	124.80	128.60
49	7	48	U	N1-C2-O2	-6.33	118.36	122.80
3	C	327	LEU	CA-CB-CG	6.33	129.87	115.30
48	5	903	U	N3-C2-O2	-6.33	117.77	122.20
48	5	2625	C	N3-C2-O2	-6.33	117.47	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2416	U	C5-C6-N1	6.33	125.87	122.70
48	5	3189	G	N1-C2-N3	6.33	127.70	123.90
48	5	3360	C	C6-N1-C2	-6.33	117.77	120.30
48	5	1511	U	C5-C6-N1	-6.33	119.53	122.70
48	5	2964	G	N7-C8-N9	-6.33	109.94	113.10
48	5	248	U	N1-C2-O2	6.33	127.23	122.80
48	5	2948	C	C5-C4-N4	6.33	124.63	120.20
48	5	2998	U	C5-C6-N1	-6.33	119.54	122.70
49	7	92	A	C6-C5-N7	-6.33	127.87	132.30
48	5	1690	C	N1-C2-O2	-6.33	115.11	118.90
48	5	2393	G	N9-C4-C5	-6.33	102.87	105.40
48	5	3245	A	C5-C6-N6	-6.33	118.64	123.70
12	L	27	ASP	CB-CG-OD1	6.32	123.99	118.30
48	5	1451	C	C5-C6-N1	-6.32	117.84	121.00
48	5	1858	A	N7-C8-N9	6.32	116.96	113.80
48	5	665	A	C2-N3-C4	-6.32	107.44	110.60
48	5	1506	A	C5-N7-C8	-6.32	100.74	103.90
48	5	2231	C	N3-C4-C5	-6.32	119.37	121.90
48	5	2351	U	N3-C2-O2	-6.32	117.78	122.20
48	5	2614	G	C8-N9-C1'	-6.32	118.78	127.00
48	5	65	A	N7-C8-N9	6.32	116.96	113.80
48	5	2735	U	C6-N1-C2	-6.32	117.21	121.00
48	5	1200	A	N1-C2-N3	6.32	132.46	129.30
46	t	385	GLN	CB-CA-C	-6.31	97.78	110.40
48	5	276	U	C2-N3-C4	-6.31	123.21	127.00
48	5	892	U	N3-C4-C5	6.31	118.39	114.60
48	5	2349	U	N3-C4-C5	6.31	118.39	114.60
48	5	787	G	C2-N3-C4	-6.31	108.74	111.90
48	5	75	G	C5-C6-O6	-6.31	124.81	128.60
48	5	679	U	C5-C6-N1	-6.31	119.55	122.70
48	5	1500	G	C8-N9-C4	6.31	108.92	106.40
48	5	2303	A	N1-C6-N6	-6.31	114.81	118.60
48	5	950	G	C8-N9-C4	6.31	108.92	106.40
48	5	2289	U	N3-C4-O4	-6.31	114.98	119.40
48	5	2808	A	N1-C2-N3	6.31	132.45	129.30
1	A	204	MET	CG-SD-CE	-6.30	90.11	100.20
48	5	2352	A	N1-C2-N3	6.30	132.45	129.30
48	5	1389	G	C5-N7-C8	-6.30	101.15	104.30
48	5	2633	U	C5-C6-N1	-6.30	119.55	122.70
48	5	891	G	C8-N9-C4	6.30	108.92	106.40
48	5	2996	U	C2-N1-C1'	6.30	125.26	117.70
48	5	793	C	N1-C2-O2	-6.30	115.12	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	994	G	N3-C2-N2	6.30	124.31	119.90
48	5	1188	U	C5-C4-O4	-6.30	122.12	125.90
48	5	2123	G	C2-N3-C4	6.30	115.05	111.90
48	5	2130	G	N1-C6-O6	-6.30	116.12	119.90
48	5	3330	A	C2-N3-C4	6.30	113.75	110.60
48	5	2211	U	N3-C4-C5	-6.30	110.82	114.60
48	5	2389	C	C5-C6-N1	-6.30	117.85	121.00
50	8	84	C	C6-N1-C2	-6.30	117.78	120.30
48	5	1041	U	C6-N1-C2	6.29	124.78	121.00
48	5	3218	A	N3-C4-C5	6.29	131.21	126.80
48	5	326	U	N3-C4-C5	6.29	118.38	114.60
48	5	1115	G	C8-N9-C4	-6.29	103.88	106.40
48	5	2164	A	C8-N9-C4	-6.29	103.28	105.80
48	5	3003	G	C5-C6-N1	6.29	114.64	111.50
48	5	1314	C	C6-N1-C1'	-6.29	113.25	120.80
48	5	582	G	C5-C6-O6	6.29	132.37	128.60
48	5	2833	A	N7-C8-N9	-6.29	110.66	113.80
48	5	3065	G	C5-C6-O6	6.29	132.37	128.60
48	5	510	G	C5-C6-N1	6.28	114.64	111.50
48	5	637	C	C2-N1-C1'	-6.28	111.89	118.80
48	5	3258	U	C6-N1-C2	6.28	124.77	121.00
48	5	1411	C	N1-C2-O2	-6.28	115.13	118.90
48	5	2277	C	C6-N1-C2	6.28	122.81	120.30
48	5	1130	A	N3-C4-C5	-6.28	122.40	126.80
48	5	1940	G	N1-C2-N2	-6.28	110.55	116.20
48	5	2261	G	C8-N9-C4	6.28	108.91	106.40
48	5	2952	G	N1-C6-O6	6.28	123.67	119.90
46	t	530	LYS	CB-CA-C	-6.28	97.85	110.40
48	5	625	G	C5-C6-O6	6.28	132.37	128.60
48	5	726	G	C5-N7-C8	-6.28	101.16	104.30
48	5	940	G	C8-N9-C4	-6.28	103.89	106.40
48	5	1168	U	N3-C4-C5	6.27	118.36	114.60
48	5	2572	C	C6-N1-C2	-6.27	117.79	120.30
2	B	10	ARG	NE-CZ-NH1	6.27	123.44	120.30
48	5	1449	A	N3-C4-C5	6.27	131.19	126.80
48	5	3308	C	C5-C6-N1	-6.27	117.87	121.00
48	5	1115	G	N3-C4-C5	-6.27	125.47	128.60
48	5	1211	U	N3-C4-O4	-6.27	115.01	119.40
48	5	3317	U	N3-C4-O4	-6.27	115.01	119.40
16	P	127	ARG	NE-CZ-NH1	6.26	123.43	120.30
48	5	314	U	C5-C4-O4	6.26	129.66	125.90
48	5	2616	C	C5-C4-N4	-6.26	115.81	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2420	C	C5-C4-N4	-6.26	115.82	120.20
48	5	2716	U	C6-N1-C2	-6.26	117.24	121.00
48	5	3175	U	C6-N1-C2	-6.26	117.24	121.00
48	5	1306	G	C6-N1-C2	-6.26	121.34	125.10
48	5	2754	G	N1-C6-O6	-6.26	116.14	119.90
48	5	2777	G	C4-C5-N7	-6.26	108.30	110.80
48	5	1872	C	C4-C5-C6	6.26	120.53	117.40
48	5	146	U	N3-C4-O4	-6.25	115.02	119.40
48	5	3270	U	C5-C6-N1	-6.25	119.57	122.70
48	5	656	A	C8-N9-C4	6.25	108.30	105.80
48	5	974	G	N3-C4-N9	6.25	129.75	126.00
48	5	2429	G	C8-N9-C4	-6.25	103.90	106.40
48	5	3216	G	C6-N1-C2	-6.25	121.35	125.10
50	8	38	U	C5-C4-O4	6.25	129.65	125.90
48	5	425	G	N7-C8-N9	-6.25	109.97	113.10
49	7	44	C	N3-C4-C5	-6.25	119.40	121.90
48	5	2128	C	N3-C2-O2	-6.25	117.53	121.90
48	5	436	A	C5-N7-C8	-6.24	100.78	103.90
48	5	1064	A	C8-N9-C4	6.24	108.30	105.80
48	5	1346	G	N3-C4-C5	6.24	131.72	128.60
48	5	2930	A	N9-C4-C5	6.24	108.30	105.80
48	5	691	A	C2-N3-C4	-6.24	107.48	110.60
48	5	1056	U	N3-C4-C5	-6.24	110.86	114.60
48	5	1688	U	N1-C2-O2	6.24	127.17	122.80
48	5	1888	U	C2-N3-C4	-6.24	123.26	127.00
48	5	734	C	N1-C2-O2	6.24	122.64	118.90
48	5	3052	G	N7-C8-N9	-6.24	109.98	113.10
48	5	1425	U	N3-C4-O4	-6.23	115.04	119.40
48	5	408	A	N1-C2-N3	6.23	132.42	129.30
48	5	670	C	N3-C4-C5	6.23	124.39	121.90
48	5	947	G	N3-C4-N9	6.23	129.74	126.00
48	5	3334	U	N3-C2-O2	-6.23	117.84	122.20
48	5	1123	U	C5-C6-N1	-6.23	119.58	122.70
48	5	1383	G	N1-C6-O6	-6.23	116.16	119.90
48	5	3317	U	C5-C6-N1	6.23	125.81	122.70
48	5	933	A	C2-N3-C4	-6.23	107.49	110.60
48	5	351	A	C5-C6-N6	-6.22	118.72	123.70
48	5	437	G	N3-C2-N2	-6.22	115.54	119.90
48	5	3014	U	C5-C4-O4	-6.22	122.17	125.90
48	5	1468	A	C8-N9-C4	-6.22	103.31	105.80
48	5	3266	G	C8-N9-C4	-6.22	103.91	106.40
46	t	56	GLN	N-CA-CB	6.22	121.80	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2930	A	C8-N9-C4	-6.22	103.31	105.80
48	5	3330	A	C6-N1-C2	-6.22	114.87	118.60
50	8	52	A	C8-N9-C4	-6.22	103.31	105.80
48	5	294	U	C5-C4-O4	-6.21	122.17	125.90
48	5	911	C	N1-C2-O2	-6.21	115.17	118.90
48	5	2516	U	C2-N3-C4	-6.21	123.27	127.00
48	5	359	U	C5-C4-O4	-6.21	122.17	125.90
48	5	644	G	N1-C6-O6	-6.21	116.17	119.90
48	5	1810	A	C8-N9-C4	6.21	108.28	105.80
48	5	2381	G	N1-C6-O6	-6.21	116.17	119.90
48	5	1297	C	C4-C5-C6	6.21	120.50	117.40
48	5	2524	A	C6-N1-C2	6.21	122.33	118.60
48	5	2728	G	C8-N9-C4	-6.21	103.92	106.40
48	5	83	U	C5-C4-O4	-6.21	122.17	125.90
48	5	2301	U	N3-C4-C5	6.21	118.32	114.60
48	5	2645	G	C6-N1-C2	-6.21	121.38	125.10
48	5	32	U	N1-C2-O2	-6.20	118.46	122.80
48	5	150	A	C5-C6-N6	-6.20	118.74	123.70
48	5	3187	A	C4-C5-N7	-6.20	107.60	110.70
48	5	112	U	C5-C4-O4	-6.20	122.18	125.90
48	5	3365	U	N1-C2-N3	6.20	118.62	114.90
48	5	514	G	N1-C6-O6	6.20	123.62	119.90
48	5	819	U	C6-N1-C2	6.20	124.72	121.00
48	5	2775	U	C5-C4-O4	6.20	129.62	125.90
48	5	1883	A	N9-C4-C5	6.20	108.28	105.80
48	5	2169	G	N1-C6-O6	-6.20	116.18	119.90
48	5	2886	U	N3-C2-O2	-6.20	117.86	122.20
48	5	1035	G	N3-C4-N9	6.20	129.72	126.00
48	5	1148	G	C5-C6-O6	-6.20	124.88	128.60
48	5	2117	A	C6-N1-C2	-6.20	114.88	118.60
48	5	2353	G	N3-C4-N9	6.20	129.72	126.00
48	5	2552	C	N3-C2-O2	-6.20	117.56	121.90
49	7	25	G	N3-C2-N2	-6.19	115.56	119.90
48	5	904	A	C8-N9-C4	-6.19	103.32	105.80
48	5	1525	G	C4-N9-C1'	6.19	134.55	126.50
48	5	2133	U	N3-C4-C5	6.19	118.32	114.60
48	5	2198	A	C2-N3-C4	-6.19	107.50	110.60
48	5	2615	G	C5-C6-O6	-6.19	124.88	128.60
50	8	53	A	C2-N3-C4	6.19	113.70	110.60
48	5	586	C	N3-C4-C5	6.19	124.38	121.90
48	5	1666	G	C5-C6-O6	6.19	132.31	128.60
48	5	3345	G	N3-C2-N2	-6.19	115.57	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	753	C	C5-C4-N4	-6.19	115.87	120.20
48	5	1652	G	C8-N9-C4	6.19	108.88	106.40
15	O	3[B]	SER	C-N-CA	-6.19	106.23	121.70
48	5	590	G	C5-C6-N1	6.19	114.59	111.50
48	5	1300	G	C4-C5-N7	6.19	113.28	110.80
31	e	4	LEU	C-N-CD	6.19	141.39	128.40
48	5	2133	U	N3-C4-O4	-6.19	115.07	119.40
50	8	15	G	C5-C6-N1	6.19	114.59	111.50
48	5	1301	A	C5-C6-N6	-6.18	118.75	123.70
48	5	3298	C	N1-C2-O2	-6.18	115.19	118.90
49	7	40	C	C4-C5-C6	6.18	120.49	117.40
48	5	1143	A	C6-N1-C2	6.18	122.31	118.60
48	5	1161	G	C8-N9-C4	6.18	108.87	106.40
48	5	2242	A	C5-C6-N6	6.18	128.64	123.70
48	5	1134	G	C6-N1-C2	-6.18	121.39	125.10
48	5	511	G	N3-C2-N2	6.18	124.22	119.90
48	5	1753	G	N3-C4-C5	-6.18	125.51	128.60
48	5	2207	A	C5-N7-C8	-6.18	100.81	103.90
48	5	2777	G	N9-C4-C5	6.18	107.87	105.40
48	5	2858	U	N1-C2-N3	6.18	118.61	114.90
48	5	42	C	C2-N3-C4	6.17	122.99	119.90
48	5	87	U	N3-C4-O4	-6.17	115.08	119.40
48	5	436	A	C8-N9-C1'	-6.17	116.59	127.70
48	5	1430	U	C6-N1-C2	6.17	124.70	121.00
48	5	311	C	N3-C4-C5	6.17	124.37	121.90
48	5	1911	A	N7-C8-N9	-6.17	110.72	113.80
48	5	3138	U	C5-C4-O4	-6.17	122.20	125.90
48	5	949	C	C5-C6-N1	-6.17	117.92	121.00
48	5	1323	G	C8-N9-C4	-6.17	103.93	106.40
48	5	2865	U	N1-C2-N3	-6.17	111.20	114.90
48	5	924	G	N3-C2-N2	-6.16	115.59	119.90
48	5	1772	U	N3-C2-O2	-6.16	117.89	122.20
48	5	2824	G	N3-C4-C5	-6.16	125.52	128.60
48	5	32	U	C6-N1-C2	-6.16	117.30	121.00
46	t	305	PRO	CA-N-CD	-6.16	102.87	111.50
48	5	367	A	N3-C4-N9	-6.16	122.47	127.40
48	5	823	C	N3-C4-C5	6.16	124.36	121.90
48	5	2757	U	N1-C2-O2	-6.16	118.49	122.80
48	5	2830	G	C6-N1-C2	-6.16	121.41	125.10
48	5	935	U	C5-C4-O4	-6.15	122.21	125.90
48	5	2632	G	N9-C4-C5	6.15	107.86	105.40
48	5	2846	U	N1-C2-O2	-6.15	118.49	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1007	U	C2-N3-C4	-6.15	123.31	127.00
50	8	79	A	N9-C4-C5	-6.15	103.34	105.80
48	5	494	G	N3-C4-C5	-6.15	125.53	128.60
48	5	909	G	C5-N7-C8	6.15	107.37	104.30
48	5	1591	G	C5-C6-N1	6.15	114.57	111.50
48	5	785	G	C2-N3-C4	6.14	114.97	111.90
48	5	917	A	C8-N9-C4	-6.14	103.34	105.80
48	5	1162	U	C2-N3-C4	-6.14	123.31	127.00
15	O	117[A]	ARG	NE-CZ-NH2	-6.14	117.23	120.30
15	O	117[B]	ARG	NE-CZ-NH2	-6.14	117.23	120.30
48	5	1389	G	N3-C4-N9	6.14	129.68	126.00
48	5	2415	C	N3-C4-C5	6.14	124.36	121.90
48	5	749	C	N3-C4-C5	-6.14	119.44	121.90
48	5	2228	A	C8-N9-C4	-6.14	103.34	105.80
46	t	167	LYS	N-CA-CB	6.14	121.64	110.60
48	5	2730	G	N3-C4-N9	-6.14	122.32	126.00
48	5	600	G	C6-C5-N7	-6.13	126.72	130.40
48	5	1931	U	C5-C6-N1	-6.13	119.63	122.70
48	5	3000	A	C8-N9-C4	6.13	108.25	105.80
48	5	822	G	N3-C4-N9	-6.13	122.32	126.00
48	5	2128	C	C2-N3-C4	-6.13	116.83	119.90
48	5	2728	G	C6-N1-C2	-6.13	121.42	125.10
50	8	47	C	N1-C2-O2	6.13	122.58	118.90
48	5	216	G	C6-C5-N7	-6.13	126.72	130.40
48	5	1009	A	C8-N9-C4	-6.13	103.35	105.80
48	5	1119	C	C5-C4-N4	-6.13	115.91	120.20
48	5	3098	G	N1-C6-O6	-6.13	116.22	119.90
48	5	1148	G	C5-C6-N1	6.13	114.56	111.50
48	5	3101	G	N1-C6-O6	-6.13	116.22	119.90
48	5	2764	C	N3-C4-C5	6.13	124.35	121.90
48	5	2976	A	N7-C8-N9	-6.13	110.74	113.80
48	5	3086	A	C8-N9-C4	6.12	108.25	105.80
48	5	912	G	N3-C4-N9	6.12	129.67	126.00
48	5	2176	U	N1-C2-N3	6.12	118.57	114.90
48	5	2808	A	N1-C6-N6	6.12	122.27	118.60
48	5	3228	C	N3-C2-O2	-6.12	117.61	121.90
48	5	2650	U	N3-C4-O4	-6.12	115.11	119.40
48	5	2993	G	N3-C4-N9	6.12	129.67	126.00
48	5	1114	U	N3-C4-C5	6.12	118.27	114.60
48	5	1161	G	C2-N3-C4	6.12	114.96	111.90
48	5	3309	G	C5-C6-N1	6.12	114.56	111.50
48	5	1044	U	N3-C4-C5	6.12	118.27	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1307	G	C8-N9-C4	-6.12	103.95	106.40
48	5	2939	G	N7-C8-N9	-6.12	110.04	113.10
48	5	818	C	N3-C4-C5	-6.11	119.45	121.90
48	5	1119	C	N1-C2-O2	-6.11	115.23	118.90
48	5	2386	A	C5-C6-N6	-6.11	118.81	123.70
48	5	2620	G	N1-C6-O6	-6.11	116.23	119.90
48	5	3020	U	C5-C4-O4	-6.11	122.23	125.90
48	5	392	G	C5-C6-O6	-6.11	124.93	128.60
48	5	999	G	C2-N3-C4	6.11	114.96	111.90
48	5	2347	U	N3-C4-C5	6.11	118.27	114.60
48	5	880	G	C5-C6-N1	6.11	114.56	111.50
48	5	1368	U	C6-N1-C2	6.11	124.67	121.00
48	5	1719	G	N1-C6-O6	6.11	123.56	119.90
46	t	384	LYS	N-CA-CB	6.10	121.59	110.60
48	5	80	G	N1-C6-O6	-6.10	116.24	119.90
48	5	822	G	N3-C2-N2	-6.10	115.63	119.90
48	5	2865	U	C2-N1-C1'	6.10	125.02	117.70
48	5	3068	U	N1-C2-N3	6.10	118.56	114.90
48	5	1381	A	C2-N3-C4	-6.10	107.55	110.60
48	5	2930	A	C8-N9-C1'	6.10	138.68	127.70
48	5	3358	U	N3-C2-O2	-6.10	117.93	122.20
48	5	904	A	N9-C4-C5	6.10	108.24	105.80
48	5	3150	A	C2-N3-C4	-6.09	107.55	110.60
48	5	3211	C	C4-C5-C6	6.09	120.45	117.40
39	m	97	ARG	NE-CZ-NH2	-6.09	117.25	120.30
48	5	282	G	N9-C4-C5	6.09	107.84	105.40
48	5	1909	A	N1-C2-N3	-6.09	126.25	129.30
48	5	2368	A	N1-C6-N6	-6.09	114.94	118.60
48	5	2833	A	C5-C6-N1	6.09	120.75	117.70
48	5	2954	U	C5-C4-O4	-6.09	122.25	125.90
48	5	102	C	N3-C4-N4	6.09	122.26	118.00
48	5	3095	U	N3-C4-C5	6.09	118.25	114.60
48	5	2791	G	N1-C6-O6	6.09	123.55	119.90
48	5	1902	G	N7-C8-N9	-6.09	110.06	113.10
48	5	33	G	C6-N1-C2	-6.08	121.45	125.10
48	5	2978	U	C2-N3-C4	-6.08	123.35	127.00
48	5	3266	G	C4-C5-N7	-6.08	108.37	110.80
48	5	1303	A	C2-N3-C4	6.08	113.64	110.60
48	5	66	A	N9-C4-C5	-6.08	103.37	105.80
48	5	386	A	N9-C4-C5	-6.08	103.37	105.80
48	5	1808	G	N1-C6-O6	6.08	123.55	119.90
48	5	2134	G	C2-N3-C4	6.08	114.94	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2980	U	C6-N1-C2	-6.08	117.35	121.00
48	5	386	A	C4-C5-N7	6.08	113.74	110.70
48	5	884	A	C4-C5-C6	-6.08	113.96	117.00
2	B	205	VAL	CB-CA-C	-6.07	99.86	111.40
48	5	1438	U	C2-N1-C1'	6.07	124.99	117.70
48	5	2167	A	N9-C4-C5	6.07	108.23	105.80
14	N	96	ARG	NE-CZ-NH1	6.07	123.33	120.30
48	5	903	U	C5-C6-N1	-6.07	119.67	122.70
48	5	2381	G	C5-C6-O6	6.07	132.24	128.60
48	5	3382	U	C6-N1-C1'	-6.07	112.70	121.20
2	B	232	ARG	NE-CZ-NH2	-6.07	117.27	120.30
15	O	117[A]	ARG	CG-CD-NE	-6.07	99.06	111.80
15	O	117[B]	ARG	CG-CD-NE	-6.07	99.06	111.80
48	5	555	U	N3-C4-O4	6.07	123.65	119.40
48	5	811	U	C4-C5-C6	6.07	123.34	119.70
48	5	927	C	N3-C4-C5	6.07	124.33	121.90
48	5	1518	U	N3-C2-O2	-6.07	117.95	122.20
48	5	3272	C	C6-N1-C2	6.06	122.72	120.30
48	5	1124	U	N3-C4-C5	6.06	118.24	114.60
48	5	2646	C	N1-C2-O2	-6.06	115.26	118.90
48	5	341	G	N1-C2-N2	6.06	121.65	116.20
48	5	1910	A	C5-C6-N1	6.06	120.73	117.70
48	5	1582	C	C6-N1-C2	-6.06	117.88	120.30
48	5	1222	G	P-O3'-C3'	6.05	126.97	119.70
49	7	46	A	C8-N9-C4	-6.05	103.38	105.80
48	5	283	G	C4-C5-N7	6.05	113.22	110.80
48	5	370	U	N1-C2-N3	6.05	118.53	114.90
48	5	341	G	N1-C6-O6	6.05	123.53	119.90
48	5	595	G	N1-C6-O6	-6.05	116.27	119.90
48	5	1192	C	C2-N3-C4	-6.05	116.87	119.90
48	5	1301	A	N9-C4-C5	-6.05	103.38	105.80
48	5	2908	G	C5-C6-N1	-6.05	108.47	111.50
48	5	933	A	C6-N1-C2	-6.05	114.97	118.60
48	5	1110	U	N3-C4-O4	-6.05	115.17	119.40
48	5	2928	C	C6-N1-C2	-6.05	117.88	120.30
48	5	2724	U	C5-C4-O4	6.05	129.53	125.90
48	5	516	A	N1-C6-N6	6.04	122.23	118.60
48	5	920	A	N7-C8-N9	-6.04	110.78	113.80
48	5	1858	A	C4-C5-C6	6.04	120.02	117.00
48	5	125	C	N3-C4-N4	-6.04	113.77	118.00
48	5	424	G	N1-C6-O6	-6.04	116.27	119.90
48	5	795	G	C2-N3-C4	6.04	114.92	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2371	G	C8-N9-C4	6.04	108.82	106.40
48	5	2396	G	C8-N9-C4	-6.04	103.98	106.40
48	5	2370	G	C5-C6-N1	6.04	114.52	111.50
48	5	2399	A	C8-N9-C4	6.04	108.22	105.80
48	5	2749	G	N1-C2-N3	-6.04	120.28	123.90
48	5	2911	A	N1-C2-N3	-6.04	126.28	129.30
48	5	1136	A	N1-C2-N3	-6.04	126.28	129.30
48	5	1929	G	N9-C4-C5	-6.04	102.98	105.40
48	5	2603	G	C5-N7-C8	-6.04	101.28	104.30
48	5	3110	C	C2-N3-C4	-6.04	116.88	119.90
48	5	3245	A	N9-C4-C5	-6.04	103.38	105.80
48	5	35	A	C2-N3-C4	-6.04	107.58	110.60
48	5	1000	C	C6-N1-C2	-6.04	117.88	120.30
48	5	2730	G	C5-N7-C8	-6.04	101.28	104.30
48	5	1184	A	C2-N3-C4	-6.04	107.58	110.60
48	5	2395	G	C4-C5-N7	-6.04	108.39	110.80
48	5	1378	U	C6-N1-C2	6.04	124.62	121.00
48	5	2353	G	C6-C5-N7	-6.03	126.78	130.40
48	5	1438	U	N3-C2-O2	-6.03	117.98	122.20
48	5	2392	C	N3-C4-C5	6.03	124.31	121.90
48	5	1340	G	N7-C8-N9	-6.03	110.08	113.10
48	5	1678	G	C5-C6-N1	6.03	114.52	111.50
48	5	3382	U	N3-C2-O2	-6.03	117.98	122.20
48	5	594	U	C5-C6-N1	6.03	125.71	122.70
48	5	3182	G	C5-C6-O6	6.03	132.22	128.60
48	5	3343	G	N1-C2-N2	-6.03	110.78	116.20
48	5	1869	C	C2-N3-C4	-6.03	116.89	119.90
48	5	971	G	N1-C2-N3	-6.02	120.29	123.90
48	5	1897	G	C5-C6-N1	6.02	114.51	111.50
48	5	708	G	C8-N9-C4	-6.02	103.99	106.40
48	5	2830	G	N3-C2-N2	-6.02	115.69	119.90
48	5	673	U	C2-N3-C4	-6.02	123.39	127.00
48	5	813	G	N9-C4-C5	6.02	107.81	105.40
48	5	1371	G	C6-N1-C2	-6.02	121.49	125.10
48	5	1469	C	C4-C5-C6	6.02	120.41	117.40
50	8	14	C	C2-N3-C4	-6.02	116.89	119.90
48	5	226	C	C5-C4-N4	-6.02	115.99	120.20
48	5	641	C	C5-C4-N4	6.02	124.41	120.20
48	5	679	U	C5-C4-O4	6.02	129.51	125.90
48	5	1147	G	C6-C5-N7	6.02	134.01	130.40
48	5	2359	C	C5-C6-N1	-6.02	117.99	121.00
48	5	2361	A	C5-N7-C8	6.02	106.91	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3140	G	C5-N7-C8	-6.02	101.29	104.30
50	8	42	G	N7-C8-N9	-6.02	110.09	113.10
48	5	1206	G	N3-C4-C5	-6.02	125.59	128.60
48	5	2910	A	N1-C6-N6	-6.02	114.99	118.60
48	5	883	A	N7-C8-N9	-6.01	110.79	113.80
48	5	1165	A	C8-N9-C4	6.01	108.21	105.80
48	5	2837	A	N7-C8-N9	-6.01	110.79	113.80
13	M	106	ARG	NE-CZ-NH2	-6.01	117.29	120.30
48	5	1128	U	C5-C6-N1	-6.01	119.69	122.70
48	5	976	U	N3-C2-O2	-6.01	117.99	122.20
48	5	1175	C	N3-C4-C5	6.01	124.30	121.90
48	5	1548	C	N1-C2-O2	-6.01	115.29	118.90
48	5	619	A	N1-C6-N6	-6.01	114.99	118.60
48	5	2799	A	C2-N3-C4	-6.01	107.60	110.60
48	5	1808	G	C8-N9-C4	6.01	108.80	106.40
48	5	2108	C	N3-C4-N4	-6.01	113.80	118.00
50	8	63	G	N1-C6-O6	-6.00	116.30	119.90
48	5	987	U	N3-C2-O2	-6.00	118.00	122.20
48	5	1725	C	C5-C4-N4	6.00	124.40	120.20
48	5	351	A	N1-C6-N6	6.00	122.20	118.60
48	5	416	A	N9-C4-C5	6.00	108.20	105.80
48	5	2887	A	C6-N1-C2	6.00	122.20	118.60
48	5	520	U	N1-C2-N3	6.00	118.50	114.90
9	I	83	ASP	CB-CG-OD1	-6.00	112.90	118.30
48	5	847	A	N7-C8-N9	-6.00	110.80	113.80
48	5	2851	A	N7-C8-N9	-6.00	110.80	113.80
48	5	3112	G	N1-C6-O6	6.00	123.50	119.90
48	5	2318	U	N3-C4-O4	-6.00	115.20	119.40
48	5	2358	A	C8-N9-C4	6.00	108.20	105.80
48	5	2365	C	C5-C6-N1	-6.00	118.00	121.00
13	M	135	LEU	CA-CB-CG	6.00	129.09	115.30
48	5	3369	G	C6-N1-C2	-6.00	121.50	125.10
48	5	1242	G	C4-N9-C1'	5.99	134.29	126.50
4	D	248	ARG	NE-CZ-NH1	5.99	123.30	120.30
48	5	517	G	N1-C2-N3	5.99	127.49	123.90
48	5	3003	G	C4-C5-C6	-5.99	115.20	118.80
48	5	3028	G	N3-C4-N9	5.99	129.59	126.00
48	5	3318	G	N1-C6-O6	-5.99	116.31	119.90
50	8	33	A	C8-N9-C4	5.99	108.20	105.80
48	5	2424	A	C5-C6-N6	-5.99	118.91	123.70
48	5	2687	G	C5-C6-N1	5.99	114.49	111.50
48	5	2844	C	N1-C2-O2	5.99	122.49	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	892	U	C2-N3-C4	-5.99	123.41	127.00
48	5	1168	U	N3-C4-O4	-5.99	115.21	119.40
48	5	1739	U	C5-C4-O4	5.99	129.49	125.90
48	5	3013	U	N3-C2-O2	-5.99	118.01	122.20
48	5	337	G	N1-C6-O6	-5.98	116.31	119.90
15	O	13[B]	ASP	C-N-CA	5.98	136.66	121.70
48	5	1181	U	C6-N1-C2	5.98	124.59	121.00
48	5	2116	G	C6-C5-N7	-5.98	126.81	130.40
48	5	2364	G	N3-C4-C5	-5.98	125.61	128.60
48	5	2416	U	N3-C2-O2	-5.98	118.01	122.20
48	5	2518	C	C2-N3-C4	-5.98	116.91	119.90
46	t	83	LYS	N-CA-CB	5.98	121.36	110.60
50	8	100	U	C5-C4-O4	-5.98	122.31	125.90
48	5	701	G	C4-C5-N7	-5.97	108.41	110.80
48	5	1042	U	N3-C2-O2	-5.97	118.02	122.20
48	5	2329	C	N3-C4-N4	-5.97	113.82	118.00
48	5	2526	C	N1-C2-O2	5.97	122.48	118.90
48	5	2692	A	C5-C6-N6	5.97	128.48	123.70
48	5	3075	G	C4-C5-N7	-5.97	108.41	110.80
9	I	57	LEU	CA-CB-CG	5.97	129.04	115.30
48	5	655	C	C6-N1-C2	-5.97	117.91	120.30
48	5	2250	G	N1-C6-O6	-5.97	116.32	119.90
48	5	1047	A	C5-C6-N1	5.97	120.69	117.70
48	5	993	G	C8-N9-C4	-5.97	104.01	106.40
48	5	2166	A	N1-C6-N6	5.97	122.18	118.60
48	5	2952	G	C6-N1-C2	-5.97	121.52	125.10
48	5	3343	G	N3-C2-N2	5.97	124.08	119.90
48	5	1171	G	N7-C8-N9	5.97	116.08	113.10
48	5	2405	C	N3-C2-O2	-5.97	117.72	121.90
48	5	3187	A	N7-C8-N9	-5.97	110.82	113.80
48	5	994	G	C8-N9-C4	5.97	108.79	106.40
46	t	546	GLN	CB-CA-C	-5.96	98.47	110.40
48	5	2346	C	N1-C2-O2	-5.96	115.32	118.90
48	5	2411	U	N3-C4-C5	5.96	118.18	114.60
48	5	2792	A	C8-N9-C4	-5.96	103.42	105.80
48	5	2639	G	C6-C5-N7	-5.96	126.82	130.40
48	5	1866	C	N3-C2-O2	5.96	126.07	121.90
48	5	2552	C	C5-C4-N4	5.96	124.37	120.20
50	8	12	A	N7-C8-N9	5.96	116.78	113.80
17	Q	99	THR	N-CA-C	5.96	127.08	111.00
48	5	2145	A	C5-C6-N1	5.96	120.68	117.70
48	5	2410	U	N3-C4-C5	5.96	118.17	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	386	A	C5-C6-N6	-5.95	118.94	123.70
48	5	861	C	N1-C2-O2	-5.95	115.33	118.90
48	5	1772	U	C5-C4-O4	5.95	129.47	125.90
49	7	92	A	N9-C4-C5	-5.95	103.42	105.80
48	5	1481	A	N3-C4-C5	-5.95	122.63	126.80
48	5	1882	G	N9-C4-C5	5.95	107.78	105.40
48	5	2939	G	C5-N7-C8	5.95	107.28	104.30
46	t	509	LEU	N-CA-CB	5.95	122.30	110.40
48	5	1035	G	C4-N9-C1'	5.95	134.24	126.50
48	5	2911	A	C8-N9-C4	-5.95	103.42	105.80
48	5	591	G	N3-C4-N9	5.95	129.57	126.00
48	5	1305	U	N3-C4-O4	5.95	123.56	119.40
48	5	2730	G	N3-C4-C5	5.95	131.57	128.60
6	F	191	VAL	C-N-CA	-5.95	109.81	122.30
48	5	426	G	N7-C8-N9	-5.95	110.13	113.10
48	5	1117	G	C5-C6-O6	-5.95	125.03	128.60
48	5	1456	A	C8-N9-C4	5.95	108.18	105.80
48	5	2988	C	N1-C2-N3	5.95	123.36	119.20
48	5	2976	A	C8-N9-C4	5.94	108.18	105.80
49	7	96	U	C2-N1-C1'	5.94	124.83	117.70
48	5	416	A	C8-N9-C4	-5.94	103.42	105.80
48	5	873	C	P-O3'-C3'	5.94	126.83	119.70
48	5	2753	G	N7-C8-N9	5.94	116.07	113.10
48	5	3192	U	C2-N3-C4	-5.94	123.43	127.00
48	5	2758	A	N3-C4-C5	-5.94	122.64	126.80
48	5	2920	U	N1-C2-N3	5.94	118.47	114.90
48	5	965	A	N3-C4-C5	-5.94	122.64	126.80
48	5	1323	G	N9-C4-C5	5.94	107.78	105.40
48	5	2426	U	N3-C4-O4	-5.94	115.24	119.40
48	5	874	U	N3-C4-O4	-5.94	115.24	119.40
48	5	1838	G	N7-C8-N9	-5.94	110.13	113.10
48	5	2917	G	N1-C6-O6	5.94	123.46	119.90
48	5	2931	C	C2-N3-C4	-5.94	116.93	119.90
48	5	3148	U	N3-C4-C5	5.94	118.16	114.60
3	C	84	ARG	NE-CZ-NH2	-5.94	117.33	120.30
48	5	1369	A	N1-C6-N6	5.94	122.16	118.60
48	5	2617	U	N3-C4-C5	5.93	118.16	114.60
48	5	2744	U	C5-C6-N1	-5.93	119.73	122.70
48	5	2792	A	C2-N3-C4	5.93	113.57	110.60
48	5	3240	C	N3-C4-N4	-5.93	113.85	118.00
48	5	2114	C	N1-C2-N3	5.93	123.35	119.20
48	5	2409	G	N7-C8-N9	5.93	116.06	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3222	U	N3-C2-O2	-5.93	118.05	122.20
46	t	305	PRO	N-CA-CB	5.93	110.42	103.30
48	5	283	G	N1-C6-O6	5.93	123.46	119.90
48	5	894	G	N3-C4-N9	5.93	129.56	126.00
48	5	1307	G	P-O3'-C3'	5.93	126.82	119.70
48	5	3112	G	C5-C6-O6	-5.93	125.04	128.60
48	5	83	U	C2-N1-C1'	5.93	124.81	117.70
48	5	3064	U	N3-C2-O2	-5.93	118.05	122.20
48	5	3341	U	C5-C6-N1	5.93	125.66	122.70
48	5	587	U	C5-C6-N1	-5.93	119.74	122.70
48	5	1311	G	N1-C2-N3	-5.93	120.34	123.90
48	5	2915	U	N3-C2-O2	-5.93	118.05	122.20
48	5	432	G	C2-N3-C4	-5.92	108.94	111.90
48	5	1086	C	N1-C2-O2	5.92	122.45	118.90
48	5	3326	G	N1-C6-O6	-5.92	116.35	119.90
48	5	1699	A	N1-C6-N6	5.92	122.15	118.60
48	5	2709	C	N3-C4-C5	5.92	124.27	121.90
48	5	3075	G	C5-C6-N1	-5.92	108.54	111.50
48	5	1122	U	N3-C2-O2	-5.92	118.06	122.20
48	5	3277	U	C6-N1-C2	-5.92	117.45	121.00
48	5	3351	U	N3-C2-O2	-5.92	118.06	122.20
48	5	2943	G	N1-C2-N2	-5.92	110.87	116.20
48	5	2130	G	N1-C2-N2	-5.92	110.88	116.20
48	5	3333	G	N9-C4-C5	-5.92	103.03	105.40
48	5	2184	U	N3-C2-O2	-5.92	118.06	122.20
48	5	3095	U	C2-N3-C4	-5.92	123.45	127.00
48	5	974	G	C8-N9-C1'	-5.91	119.31	127.00
48	5	1907	C	C5-C6-N1	5.91	123.96	121.00
48	5	2965	U	N1-C2-O2	-5.91	118.66	122.80
48	5	3373	U	C5-C6-N1	-5.91	119.74	122.70
48	5	3216	G	C4-C5-C6	5.91	122.35	118.80
2	B	114	VAL	CB-CA-C	-5.91	100.17	111.40
36	j	21	ARG	NE-CZ-NH2	-5.91	117.34	120.30
48	5	359	U	C6-N1-C2	5.91	124.55	121.00
48	5	2421	U	N1-C2-N3	5.91	118.45	114.90
48	5	2641	U	N1-C2-O2	-5.91	118.66	122.80
48	5	3075	G	C4-C5-C6	5.91	122.35	118.80
48	5	2961	G	N7-C8-N9	5.91	116.05	113.10
48	5	667	C	C2-N1-C1'	-5.91	112.30	118.80
48	5	201	A	C2-N3-C4	-5.91	107.65	110.60
48	5	419	G	C8-N9-C4	5.91	108.76	106.40
48	5	3055	U	N1-C2-O2	5.91	126.93	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3226	A	N1-C2-N3	-5.91	126.35	129.30
48	5	3269	U	N3-C2-O2	-5.91	118.07	122.20
48	5	968	G	C8-N9-C4	5.90	108.76	106.40
48	5	2113	A	C8-N9-C4	5.90	108.16	105.80
48	5	2607	G	N1-C6-O6	-5.90	116.36	119.90
49	7	12	U	C5-C4-O4	-5.90	122.36	125.90
48	5	2366	C	C6-N1-C1'	-5.90	113.72	120.80
48	5	1317	A	N3-C4-N9	5.90	132.12	127.40
48	5	1512	U	C5-C6-N1	-5.90	119.75	122.70
48	5	2323	G	N1-C6-O6	-5.90	116.36	119.90
48	5	2370	G	N1-C2-N3	5.90	127.44	123.90
48	5	795	G	C5-N7-C8	5.90	107.25	104.30
48	5	1889	G	N3-C4-C5	-5.89	125.65	128.60
50	8	99	C	N3-C4-C5	5.89	124.26	121.90
48	5	432	G	C4-C5-N7	5.89	113.16	110.80
48	5	546	C	N3-C2-O2	-5.89	117.78	121.90
48	5	3298	C	C4-C5-C6	5.89	120.35	117.40
48	5	2167	A	N1-C6-N6	-5.89	115.07	118.60
48	5	2271	A	N1-C6-N6	-5.89	115.07	118.60
48	5	593	C	C2-N1-C1'	5.89	125.28	118.80
48	5	2188	A	N7-C8-N9	-5.89	110.86	113.80
49	7	25	G	C5-C6-O6	-5.89	125.07	128.60
48	5	2421	U	N1-C2-O2	-5.88	118.68	122.80
48	5	590	G	C5-C6-O6	-5.88	125.07	128.60
48	5	1178	G	C5-N7-C8	-5.88	101.36	104.30
48	5	1190	A	N1-C6-N6	-5.88	115.07	118.60
48	5	2314	U	C6-N1-C1'	-5.88	112.97	121.20
22	V	33	ASN	CB-CA-C	-5.88	98.64	110.40
48	5	968	G	C4-C5-N7	5.88	113.15	110.80
48	5	39	A	N3-C4-N9	5.88	132.10	127.40
48	5	1437	C	C2-N1-C1'	5.88	125.27	118.80
48	5	2118	C	N1-C2-O2	5.88	122.43	118.90
48	5	182	U	C5-C6-N1	5.88	125.64	122.70
48	5	3216	G	N1-C2-N3	5.88	127.42	123.90
48	5	1127	G	C5-C6-N1	5.87	114.44	111.50
48	5	1189	C	C6-N1-C2	5.87	122.65	120.30
48	5	1429	G	C2-N3-C4	-5.87	108.96	111.90
48	5	1495	U	C2-N1-C1'	5.87	124.75	117.70
48	5	2349	U	C4-C5-C6	-5.87	116.18	119.70
48	5	2747	A	N9-C4-C5	5.87	108.15	105.80
48	5	2917	G	N3-C4-C5	-5.87	125.66	128.60
48	5	3100	U	N1-C2-O2	5.87	126.91	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3241	G	C4-C5-N7	5.87	113.15	110.80
48	5	2531	C	C6-N1-C1'	-5.87	113.75	120.80
48	5	404	G	N3-C2-N2	-5.87	115.79	119.90
48	5	2347	U	C2-N3-C4	-5.87	123.48	127.00
48	5	25	U	N1-C2-O2	-5.87	118.69	122.80
48	5	2849	C	C6-N1-C2	-5.87	117.95	120.30
50	8	24	G	N3-C2-N2	5.87	124.01	119.90
48	5	216	G	C5-C6-O6	-5.87	125.08	128.60
48	5	1415	U	C5-C6-N1	-5.87	119.77	122.70
48	5	524	U	N1-C2-O2	-5.87	118.69	122.80
48	5	1490	A	C2-N3-C4	-5.87	107.67	110.60
48	5	2320	A	N1-C6-N6	-5.87	115.08	118.60
48	5	3099	C	C4-C5-C6	5.87	120.33	117.40
12	L	46	ILE	CG1-CB-CG2	-5.86	98.50	111.40
48	5	1495	U	N3-C4-C5	-5.86	111.08	114.60
48	5	2516	U	C5-C4-O4	-5.86	122.38	125.90
48	5	2711	C	C4-C5-C6	5.86	120.33	117.40
48	5	3102	G	C5-C6-O6	5.86	132.12	128.60
48	5	3141	A	C4-C5-C6	5.86	119.93	117.00
48	5	3267	A	N1-C2-N3	5.86	132.23	129.30
48	5	874	U	C5-C6-N1	-5.86	119.77	122.70
48	5	2141	U	N3-C2-O2	-5.86	118.10	122.20
48	5	2549	G	C4-N9-C1'	5.86	134.12	126.50
46	t	53	LYS	N-CA-CB	5.86	121.15	110.60
48	5	1045	C	N1-C2-N3	5.86	123.30	119.20
48	5	345	G	C6-N1-C2	-5.86	121.59	125.10
48	5	1247	U	C5-C6-N1	5.86	125.63	122.70
48	5	2410	U	N3-C4-O4	-5.86	115.30	119.40
48	5	2617	U	C6-N1-C2	5.86	124.52	121.00
48	5	2846	U	C5-C6-N1	-5.86	119.77	122.70
14	N	172	ARG	NE-CZ-NH2	5.86	123.23	120.30
48	5	509	U	N1-C2-N3	5.86	118.41	114.90
48	5	1206	G	C4-C5-N7	-5.85	108.46	110.80
48	5	2426	U	N3-C2-O2	-5.85	118.10	122.20
48	5	3088	G	C5-N7-C8	-5.85	101.37	104.30
48	5	908	G	C8-N9-C1'	-5.85	119.39	127.00
48	5	1753	G	C2-N3-C4	5.85	114.83	111.90
48	5	2292	U	C2-N3-C4	-5.85	123.49	127.00
48	5	2992	U	N3-C2-O2	-5.85	118.10	122.20
48	5	3120	C	N3-C4-C5	-5.85	119.56	121.90
9	I	7	ARG	NE-CZ-NH1	-5.85	117.38	120.30
48	5	2381	G	C2-N3-C4	5.85	114.83	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	19	ARG	NE-CZ-NH2	-5.85	117.38	120.30
48	5	365	A	C5-C6-N6	-5.85	119.02	123.70
48	5	966	U	C2-N1-C1'	5.85	124.72	117.70
48	5	2361	A	N3-C4-N9	5.85	132.08	127.40
48	5	2843	U	C2-N1-C1'	5.85	124.72	117.70
48	5	3296	A	C8-N9-C4	5.85	108.14	105.80
48	5	1181	U	C2-N3-C4	-5.85	123.49	127.00
48	5	1586	G	N3-C4-C5	-5.85	125.68	128.60
48	5	3340	G	N1-C6-O6	-5.85	116.39	119.90
48	5	3395	G	N3-C4-C5	5.85	131.52	128.60
48	5	1892	G	N3-C2-N2	-5.85	115.81	119.90
48	5	3224	G	N1-C6-O6	-5.85	116.39	119.90
48	5	1043	C	C5-C6-N1	-5.84	118.08	121.00
48	5	2335	G	N1-C6-O6	-5.84	116.39	119.90
48	5	1494	U	N3-C2-O2	5.84	126.29	122.20
48	5	2148	U	N3-C2-O2	5.84	126.29	122.20
48	5	3019	U	N3-C4-C5	5.84	118.11	114.60
50	8	55	U	N3-C4-C5	-5.84	111.09	114.60
48	5	798	G	C5-C6-N1	5.84	114.42	111.50
48	5	1210	U	N3-C4-O4	-5.84	115.31	119.40
48	5	1485	G	N3-C4-C5	-5.84	125.68	128.60
48	5	2327	U	N3-C4-C5	5.84	118.10	114.60
48	5	2906	C	N3-C4-C5	-5.84	119.56	121.90
48	5	590	G	C5-N7-C8	-5.84	101.38	104.30
48	5	2346	C	C5-C4-N4	-5.84	116.11	120.20
48	5	272	G	C2-N3-C4	-5.83	108.98	111.90
48	5	741	U	C2-N3-C4	5.83	130.50	127.00
48	5	1917	C	C2-N3-C4	-5.83	116.98	119.90
48	5	2147	A	C5-C6-N6	-5.83	119.03	123.70
48	5	2412	G	N9-C4-C5	5.83	107.73	105.40
50	8	28	C	C4-C5-C6	-5.83	114.48	117.40
46	t	240	PRO	N-CA-CB	5.83	110.30	103.30
48	5	1133	A	N1-C2-N3	-5.83	126.39	129.30
48	5	96	G	N1-C2-N3	5.83	127.40	123.90
48	5	911	C	C2-N3-C4	-5.83	116.99	119.90
48	5	2770	G	C2-N3-C4	5.83	114.81	111.90
48	5	2305	G	N1-C2-N2	-5.83	110.96	116.20
48	5	689	U	N3-C4-O4	-5.82	115.32	119.40
48	5	795	G	N1-C2-N3	-5.82	120.41	123.90
48	5	1193	A	C2-N3-C4	-5.82	107.69	110.60
48	5	2148	U	C5-C4-O4	-5.82	122.41	125.90
48	5	706	A	N1-C2-N3	-5.82	126.39	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	216	G	C4-C5-N7	5.82	113.13	110.80
48	5	1297	C	C5-C4-N4	-5.82	116.13	120.20
48	5	1136	A	C2-N3-C4	5.82	113.51	110.60
48	5	613	G	N1-C6-O6	-5.82	116.41	119.90
48	5	1939	G	N1-C2-N2	-5.82	110.97	116.20
48	5	2584	G	C4-C5-N7	5.82	113.13	110.80
48	5	2804	A	C8-N9-C4	5.82	108.13	105.80
48	5	3215	A	C8-N9-C4	5.82	108.13	105.80
48	5	1512	U	C4-C5-C6	5.82	123.19	119.70
9	I	21	ARG	NE-CZ-NH1	5.81	123.21	120.30
48	5	815	G	N9-C4-C5	5.81	107.73	105.40
48	5	979	U	N1-C2-O2	5.81	126.87	122.80
48	5	2510	U	C2-N1-C1'	-5.81	110.73	117.70
48	5	3212	C	C5-C6-N1	-5.81	118.09	121.00
48	5	2248	C	C5-C6-N1	-5.81	118.09	121.00
49	7	47	C	C2-N3-C4	-5.81	117.00	119.90
48	5	2338	C	N3-C4-C5	-5.81	119.58	121.90
48	5	2817	A	C2-N3-C4	5.81	113.50	110.60
48	5	3131	U	C5-C4-O4	-5.81	122.42	125.90
48	5	1438	U	C6-N1-C2	-5.81	117.52	121.00
48	5	3152	U	C6-N1-C2	5.81	124.48	121.00
48	5	665	A	N9-C4-C5	-5.80	103.48	105.80
48	5	916	G	N3-C4-N9	-5.80	122.52	126.00
46	t	170	LEU	CB-CA-C	-5.80	99.18	110.20
48	5	376	G	N1-C6-O6	-5.80	116.42	119.90
48	5	427	C	C2-N3-C4	-5.80	117.00	119.90
48	5	2207	A	N7-C8-N9	5.80	116.70	113.80
48	5	2838	A	C6-N1-C2	-5.80	115.12	118.60
48	5	2893	C	C4-C5-C6	5.80	120.30	117.40
49	7	5	G	C8-N9-C4	5.80	108.72	106.40
50	8	17	A	C5-C6-N6	-5.80	119.06	123.70
48	5	1607	U	C2-N3-C4	-5.80	123.52	127.00
48	5	1834	U	C6-N1-C2	5.80	124.48	121.00
48	5	3298	C	C2-N3-C4	-5.80	117.00	119.90
12	L	76	THR	N-CA-CB	5.79	121.31	110.30
48	5	2335	G	N9-C4-C5	5.79	107.72	105.40
48	5	3130	A	C6-N1-C2	-5.79	115.12	118.60
50	8	104	A	N1-C6-N6	5.79	122.08	118.60
48	5	332	C	C5-C6-N1	-5.79	118.10	121.00
48	5	289	A	C5-C6-N1	5.79	120.60	117.70
48	5	2549	G	N1-C6-O6	5.79	123.38	119.90
48	5	3197	G	N3-C4-N9	-5.79	122.53	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	153	U	C5-C4-O4	5.79	129.37	125.90
48	5	3388	C	N3-C2-O2	-5.79	117.85	121.90
48	5	1116	G	C5-C6-O6	5.79	132.07	128.60
48	5	3218	A	N7-C8-N9	5.79	116.69	113.80
50	8	7	U	C5-C6-N1	-5.79	119.81	122.70
50	8	23	U	C4-C5-C6	5.79	123.17	119.70
48	5	1116	G	N3-C4-C5	-5.79	125.71	128.60
48	5	1669	C	C6-N1-C2	5.79	122.61	120.30
48	5	3000	A	C5-C6-N6	-5.79	119.07	123.70
48	5	798	G	C5-C6-O6	-5.79	125.13	128.60
48	5	3301	U	C6-N1-C2	5.79	124.47	121.00
48	5	159	A	C8-N9-C4	5.78	108.11	105.80
48	5	363	G	N9-C4-C5	5.78	107.71	105.40
48	5	1159	A	N3-C4-C5	5.78	130.85	126.80
48	5	1322	U	N3-C4-C5	5.78	118.07	114.60
48	5	1607	U	P-O3'-C3'	5.78	126.64	119.70
48	5	1902	G	C5-C6-N1	5.78	114.39	111.50
48	5	2643	A	N1-C2-N3	-5.78	126.41	129.30
48	5	2692	A	C5-N7-C8	5.78	106.79	103.90
48	5	2745	G	C5-C6-O6	-5.78	125.13	128.60
48	5	3285	C	C2-N1-C1'	5.78	125.16	118.80
48	5	1524	A	N1-C2-N3	5.78	132.19	129.30
48	5	2866	U	C2-N3-C4	-5.78	123.53	127.00
19	S	155	ARG	CG-CD-NE	5.78	123.93	111.80
48	5	994	G	C6-N1-C2	-5.78	121.63	125.10
48	5	1129	A	C2-N3-C4	5.78	113.49	110.60
48	5	1911	A	C2-N3-C4	-5.78	107.71	110.60
48	5	2129	U	N3-C4-C5	5.78	118.07	114.60
49	7	80	G	N3-C4-N9	5.78	129.47	126.00
50	8	16	G	N1-C2-N3	5.78	127.37	123.90
2	B	266	ARG	NE-CZ-NH1	5.78	123.19	120.30
48	5	1477	A	N1-C2-N3	5.78	132.19	129.30
48	5	2337	C	C2-N3-C4	-5.78	117.01	119.90
48	5	2846	U	C2-N3-C4	-5.78	123.53	127.00
48	5	666	A	C2-N3-C4	-5.77	107.71	110.60
48	5	2305	G	C6-C5-N7	-5.77	126.94	130.40
48	5	3259	U	C5-C6-N1	5.77	125.59	122.70
48	5	523	A	C5-C6-N6	5.77	128.32	123.70
48	5	1126	G	C2-N3-C4	-5.77	109.01	111.90
48	5	1128	U	N1-C2-N3	5.77	118.36	114.90
48	5	24	G	C5-C6-O6	-5.77	125.14	128.60
48	5	1369	A	N9-C4-C5	-5.77	103.49	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	7	106	U	C5-C6-N1	-5.77	119.81	122.70
38	1	45	ARG	NE-CZ-NH2	-5.77	117.42	120.30
48	5	680	G	N3-C2-N2	5.77	123.94	119.90
48	5	3076	C	N3-C2-O2	-5.77	117.86	121.90
48	5	2108	C	N3-C4-C5	5.77	124.21	121.90
48	5	3316	A	N1-C6-N6	5.77	122.06	118.60
48	5	1445	U	C2-N3-C4	-5.76	123.54	127.00
50	8	20	U	C5-C6-N1	-5.76	119.82	122.70
48	5	1206	G	C2-N3-C4	5.76	114.78	111.90
48	5	1443	G	C5-C6-N1	-5.76	108.62	111.50
15	O	197[B]	PHE	O-C-N	5.76	133.00	123.20
48	5	591	G	C8-N9-C4	5.76	108.70	106.40
48	5	3113	A	C5-C6-N1	5.76	120.58	117.70
48	5	365	A	N1-C6-N6	5.76	122.06	118.60
48	5	1158	A	C4-C5-N7	5.76	113.58	110.70
48	5	1364	C	C5-C6-N1	-5.76	118.12	121.00
48	5	1832	C	C6-N1-C2	5.76	122.60	120.30
48	5	39	A	C5-N7-C8	5.76	106.78	103.90
48	5	2920	U	C4-C5-C6	5.76	123.16	119.70
48	5	880	G	C2-N3-C4	5.76	114.78	111.90
48	5	2835	U	N1-C2-N3	5.76	118.35	114.90
48	5	2971	A	C2-N3-C4	5.76	113.48	110.60
48	5	3375	A	N1-C2-N3	-5.75	126.42	129.30
48	5	2306	C	C2-N1-C1'	5.75	125.13	118.80
48	5	2920	U	N1-C2-O2	-5.75	118.77	122.80
48	5	326	U	C4-C5-C6	-5.75	116.25	119.70
48	5	1242	G	N3-C4-N9	5.75	129.45	126.00
48	5	1931	U	C6-N1-C1'	5.75	129.25	121.20
48	5	1045	C	N1-C2-O2	-5.75	115.45	118.90
48	5	2899	C	C5-C6-N1	-5.75	118.13	121.00
48	5	3212	C	N1-C2-O2	-5.75	115.45	118.90
48	5	666	A	C8-N9-C4	5.75	108.10	105.80
48	5	706	A	C5-C6-N6	-5.75	119.10	123.70
46	t	171	GLN	CB-CA-C	-5.75	98.91	110.40
48	5	2142	A	N3-C4-N9	5.75	132.00	127.40
48	5	88	A	C5-C6-N1	-5.74	114.83	117.70
48	5	1116	G	C4-C5-C6	5.74	122.25	118.80
48	5	2658	G	N7-C8-N9	-5.74	110.23	113.10
48	5	3241	G	C5-C6-O6	-5.74	125.15	128.60
48	5	1060	U	C2-N3-C4	-5.74	123.56	127.00
48	5	1314	C	N3-C4-C5	5.74	124.20	121.90
48	5	1724	U	C2-N1-C1'	5.74	124.59	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2706	G	C2-N3-C4	5.74	114.77	111.90
48	5	801	A	C6-N1-C2	5.74	122.04	118.60
2	B	21	ARG	NE-CZ-NH2	-5.74	117.43	120.30
48	5	920	A	C8-N9-C4	5.74	108.09	105.80
48	5	3047	U	C2-N3-C4	-5.74	123.56	127.00
48	5	1371	G	N7-C8-N9	-5.73	110.23	113.10
48	5	35	A	C8-N9-C4	5.73	108.09	105.80
48	5	1466	G	N3-C4-N9	-5.73	122.56	126.00
48	5	1904	C	N1-C2-O2	5.73	122.34	118.90
48	5	1163	A	C5-C6-N1	5.73	120.57	117.70
48	5	1371	G	C5-N7-C8	5.73	107.17	104.30
48	5	2742	C	N3-C4-C5	5.73	124.19	121.90
48	5	1113	G	N7-C8-N9	-5.73	110.23	113.10
48	5	1159	A	N9-C4-C5	-5.73	103.51	105.80
48	5	2827	U	N3-C2-O2	-5.73	118.19	122.20
48	5	819	U	N3-C4-O4	5.72	123.41	119.40
48	5	998	A	N1-C2-N3	5.72	132.16	129.30
48	5	2329	C	C5-C4-N4	5.72	124.21	120.20
9	I	139	ARG	NE-CZ-NH1	5.72	123.16	120.30
17	Q	50	LYS	CD-CE-NZ	5.72	124.86	111.70
48	5	518	G	C8-N9-C4	5.72	108.69	106.40
48	5	2342	U	N3-C2-O2	-5.72	118.19	122.20
48	5	2584	G	C5-C6-O6	-5.72	125.17	128.60
50	8	95	G	C4-N9-C1'	-5.72	119.06	126.50
15	O	163[B]	ARG	NE-CZ-NH2	-5.72	117.44	120.30
48	5	1888	U	N1-C2-N3	5.72	118.33	114.90
48	5	760	G	C5-C6-O6	-5.72	125.17	128.60
48	5	769	G	N7-C8-N9	-5.72	110.24	113.10
48	5	1208	U	N1-C2-N3	5.72	118.33	114.90
48	5	1840	U	N1-C2-O2	5.72	126.80	122.80
48	5	2293	C	N1-C2-O2	5.72	122.33	118.90
48	5	2320	A	N3-C4-N9	-5.72	122.82	127.40
48	5	224	C	N3-C2-O2	-5.72	117.90	121.90
48	5	276	U	C4-C5-C6	5.72	123.13	119.70
48	5	670	C	C2-N3-C4	-5.72	117.04	119.90
48	5	1846	C	N3-C2-O2	-5.72	117.90	121.90
48	5	2748	A	C5-C6-N6	-5.72	119.13	123.70
48	5	1159	A	C6-N1-C2	5.72	122.03	118.60
48	5	1832	C	C5-C4-N4	-5.72	116.20	120.20
48	5	1035	G	C8-N9-C1'	-5.71	119.57	127.00
48	5	971	G	N9-C4-C5	5.71	107.68	105.40
48	5	3339	A	C5-C6-N6	-5.71	119.13	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2552	C	N3-C4-N4	-5.71	114.00	118.00
48	5	2619	G	C5-C6-N1	5.71	114.35	111.50
48	5	1429	G	C6-C5-N7	-5.71	126.98	130.40
48	5	1553	U	N3-C2-O2	5.71	126.19	122.20
48	5	2730	G	N3-C2-N2	-5.71	115.91	119.90
48	5	2736	A	C5-C6-N6	5.71	128.26	123.70
48	5	1856	C	C6-N1-C2	-5.71	118.02	120.30
50	8	26	U	C2-N1-C1'	5.71	124.55	117.70
16	P	24	VAL	CB-CA-C	-5.70	100.56	111.40
48	5	526	C	C5-C4-N4	-5.70	116.21	120.20
48	5	1849	C	N3-C2-O2	-5.70	117.91	121.90
48	5	2400	G	N1-C6-O6	5.70	123.32	119.90
48	5	382	U	N1-C2-N3	5.70	118.32	114.90
15	O	23[B]	ILE	C-N-CA	-5.70	107.45	121.70
48	5	2400	G	C4-C5-N7	5.70	113.08	110.80
48	5	2836	C	C5-C4-N4	5.70	124.19	120.20
48	5	413	U	N1-C2-N3	5.70	118.32	114.90
48	5	563	U	N3-C2-O2	-5.70	118.21	122.20
48	5	873	C	C4-C5-C6	5.70	120.25	117.40
46	t	59	LEU	N-CA-CB	5.70	121.79	110.40
48	5	672	A	N1-C6-N6	5.70	122.02	118.60
48	5	1512	U	C2-N3-C4	-5.70	123.58	127.00
48	5	2904	U	C2-N3-C4	-5.70	123.58	127.00
48	5	53	G	N3-C2-N2	5.69	123.89	119.90
48	5	270	U	N3-C2-O2	-5.69	118.21	122.20
48	5	1639	C	C6-N1-C2	-5.69	118.02	120.30
48	5	2192	C	C4-C5-C6	5.69	120.25	117.40
48	5	2422	C	N3-C2-O2	-5.69	117.92	121.90
48	5	2848	G	C4-C5-C6	5.69	122.22	118.80
17	Q	127	LEU	CA-CB-CG	5.69	128.39	115.30
48	5	334	A	C2-N3-C4	5.69	113.45	110.60
48	5	2188	A	N1-C2-N3	5.69	132.15	129.30
48	5	2665	U	C2-N3-C4	5.69	130.42	127.00
50	8	109	A	C8-N9-C4	-5.69	103.52	105.80
48	5	1589	A	C5-C6-N1	5.69	120.55	117.70
49	7	38	U	C2-N1-C1'	5.69	124.53	117.70
48	5	248	U	C2-N1-C1'	5.69	124.53	117.70
48	5	582	G	N1-C6-O6	-5.69	116.49	119.90
48	5	916	G	N9-C4-C5	5.69	107.68	105.40
48	5	2978	U	N1-C2-N3	5.69	118.31	114.90
8	H	151	VAL	CB-CA-C	-5.69	100.59	111.40
48	5	411	U	N1-C2-N3	5.69	118.31	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2123	G	C5-C6-N1	5.69	114.34	111.50
48	5	2320	A	N9-C4-C5	5.69	108.08	105.80
48	5	2832	C	C6-N1-C2	5.69	122.58	120.30
48	5	2979	U	N3-C2-O2	5.69	126.18	122.20
48	5	884	A	N1-C6-N6	-5.69	115.19	118.60
48	5	1285	G	N7-C8-N9	-5.69	110.26	113.10
48	5	3365	U	C6-N1-C2	-5.69	117.59	121.00
48	5	1914	G	N1-C6-O6	-5.68	116.49	119.90
50	8	95	G	C8-N9-C1'	5.68	134.39	127.00
48	5	65	A	P-O3'-C3'	5.68	126.52	119.70
48	5	2197	C	C2-N1-C1'	-5.68	112.55	118.80
48	5	3313	U	N3-C4-O4	-5.68	115.42	119.40
48	5	369	A	N1-C6-N6	-5.68	115.19	118.60
48	5	3088	G	N7-C8-N9	5.68	115.94	113.10
48	5	1044	U	C2-N3-C4	-5.68	123.59	127.00
48	5	1143	A	C5-N7-C8	-5.68	101.06	103.90
48	5	1210	U	N1-C2-O2	5.68	126.78	122.80
48	5	1525	G	C8-N9-C1'	-5.68	119.62	127.00
48	5	1844	C	N1-C2-N3	5.68	123.18	119.20
48	5	2774	C	N1-C2-O2	-5.68	115.49	118.90
48	5	79	U	C5-C4-O4	-5.68	122.49	125.90
48	5	925	A	N1-C6-N6	5.68	122.01	118.60
48	5	2330	C	C4-C5-C6	5.68	120.24	117.40
46	t	21	GLN	CB-CA-C	-5.67	99.05	110.40
48	5	666	A	N7-C8-N9	-5.67	110.96	113.80
48	5	953	G	N3-C4-N9	-5.67	122.60	126.00
3	C	136	LEU	CA-CB-CG	5.67	128.35	115.30
48	5	280	U	N3-C4-C5	5.67	118.00	114.60
48	5	355	A	N1-C6-N6	5.67	122.00	118.60
48	5	1159	A	C5-N7-C8	-5.67	101.06	103.90
48	5	1451	C	C2-N3-C4	-5.67	117.06	119.90
48	5	1485	G	C4-C5-N7	-5.67	108.53	110.80
48	5	1726	C	C5-C6-N1	-5.67	118.17	121.00
48	5	842	G	N1-C6-O6	5.67	123.30	119.90
48	5	905	U	N3-C4-O4	5.67	123.37	119.40
48	5	2892	A	N1-C6-N6	-5.67	115.20	118.60
48	5	3200	G	N3-C2-N2	-5.67	115.93	119.90
48	5	3290	G	N7-C8-N9	5.67	115.93	113.10
48	5	1744	G	C5-C6-N1	5.67	114.33	111.50
48	5	2988	C	N3-C4-C5	-5.67	119.63	121.90
48	5	3200	G	C5-C6-O6	-5.67	125.20	128.60
48	5	948	C	N3-C4-N4	5.66	121.96	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	958	C	N3-C4-C5	5.66	124.17	121.90
48	5	1370	G	N3-C4-N9	5.66	129.40	126.00
48	5	1405	U	C2-N3-C4	-5.66	123.60	127.00
48	5	2293	C	C2-N1-C1'	5.66	125.03	118.80
48	5	1300	G	C6-C5-N7	-5.66	127.00	130.40
48	5	1331	U	C5-C4-O4	-5.66	122.50	125.90
48	5	824	C	N3-C4-C5	-5.66	119.64	121.90
49	7	8	G	C8-N9-C4	-5.66	104.14	106.40
50	8	34	U	C5-C6-N1	-5.66	119.87	122.70
48	5	1652	G	C4-C5-N7	-5.65	108.54	110.80
48	5	1192	C	C5-C6-N1	-5.65	118.17	121.00
48	5	2865	U	N1-C2-O2	5.65	126.76	122.80
50	8	113	U	C6-N1-C1'	-5.65	113.29	121.20
46	t	51	HIS	N-CA-CB	5.65	120.77	110.60
48	5	2434	U	C2-N3-C4	-5.65	123.61	127.00
48	5	2816	G	C4-N9-C1'	-5.65	119.15	126.50
48	5	359	U	C5-C6-N1	-5.65	119.88	122.70
48	5	114	A	N1-C6-N6	5.65	121.99	118.60
48	5	2277	C	N1-C2-O2	5.65	122.29	118.90
50	8	37	A	N1-C6-N6	-5.65	115.21	118.60
46	t	20	LEU	N-CA-CB	5.64	121.69	110.40
48	5	201	A	C5-C6-N1	-5.64	114.88	117.70
48	5	2239	G	N3-C2-N2	5.64	123.85	119.90
48	5	3006	A	N9-C4-C5	5.64	108.06	105.80
48	5	3123	A	N9-C4-C5	-5.64	103.54	105.80
48	5	2744	U	C5-C4-O4	5.64	129.29	125.90
50	8	100	U	C2-N1-C1'	5.64	124.47	117.70
48	5	1403	C	C2-N3-C4	-5.64	117.08	119.90
48	5	1909	A	C4-C5-C6	-5.64	114.18	117.00
48	5	217	U	C2-N3-C4	-5.64	123.62	127.00
48	5	796	U	N1-C2-O2	5.64	126.75	122.80
48	5	2341	A	C5-N7-C8	5.64	106.72	103.90
48	5	3285	C	N1-C2-O2	5.64	122.28	118.90
48	5	2249	G	C8-N9-C4	-5.64	104.14	106.40
48	5	2343	C	C5-C4-N4	-5.64	116.25	120.20
48	5	2979	U	C5-C6-N1	-5.64	119.88	122.70
48	5	574	U	C5-C4-O4	-5.64	122.52	125.90
48	5	1206	G	C5-C6-O6	5.64	131.98	128.60
49	7	103	A	C5-C6-N6	-5.64	119.19	123.70
48	5	234	G	N1-C6-O6	5.63	123.28	119.90
48	5	2180	G	N3-C2-N2	5.63	123.84	119.90
48	5	946	U	N1-C2-O2	5.63	126.74	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1183	C	N3-C4-C5	5.63	124.15	121.90
48	5	1284	C	C5-C6-N1	5.63	123.82	121.00
48	5	1458	U	N3-C4-C5	5.63	117.98	114.60
50	8	106	C	N3-C4-C5	5.63	124.15	121.90
48	5	98	G	C8-N9-C4	5.63	108.65	106.40
48	5	2237	C	N3-C2-O2	-5.63	117.96	121.90
6	F	229	PHE	CB-CG-CD1	5.63	124.74	120.80
27	a	46	ASP	N-CA-C	-5.63	95.81	111.00
48	5	634	C	C2-N3-C4	-5.63	117.09	119.90
48	5	2974	U	C5-C4-O4	5.63	129.28	125.90
48	5	935	U	C2-N3-C4	-5.62	123.62	127.00
48	5	1127	G	N9-C4-C5	-5.62	103.15	105.40
48	5	1603	A	N9-C4-C5	5.62	108.05	105.80
48	5	1883	A	C8-N9-C4	-5.62	103.55	105.80
48	5	2326	A	C2-N3-C4	5.62	113.41	110.60
48	5	2361	A	C5-C6-N1	5.62	120.51	117.70
48	5	2363	A	N7-C8-N9	5.62	116.61	113.80
48	5	367	A	N3-C4-C5	5.62	130.74	126.80
48	5	1448	U	C4-C5-C6	5.62	123.07	119.70
48	5	1773	C	C5-C6-N1	-5.62	118.19	121.00
48	5	282	G	C2'-C3'-O3'	5.62	122.69	113.70
48	5	363	G	C4-C5-N7	-5.62	108.55	110.80
48	5	367	A	C5-C6-N6	5.62	128.20	123.70
48	5	728	G	N7-C8-N9	-5.62	110.29	113.10
48	5	950	G	N9-C4-C5	-5.62	103.15	105.40
48	5	1444	G	C8-N9-C4	5.62	108.65	106.40
48	5	2630	C	N1-C2-O2	-5.62	115.53	118.90
48	5	2999	U	C5-C6-N1	-5.62	119.89	122.70
48	5	3197	G	N3-C2-N2	-5.62	115.97	119.90
49	7	25	G	N1-C2-N2	5.62	121.26	116.20
48	5	39	A	N7-C8-N9	-5.62	110.99	113.80
48	5	2717	U	C2-N3-C4	-5.62	123.63	127.00
48	5	3173	G	C5-C6-N1	5.62	114.31	111.50
50	8	31	G	N7-C8-N9	-5.62	110.29	113.10
48	5	934	G	N1-C2-N2	5.62	121.25	116.20
48	5	1942	U	N3-C4-O4	5.62	123.33	119.40
48	5	2392	C	C5-C6-N1	-5.62	118.19	121.00
48	5	39	A	C2-N3-C4	5.61	113.41	110.60
48	5	1144	U	C2-N3-C4	-5.61	123.63	127.00
48	5	1207	G	N1-C6-O6	-5.61	116.53	119.90
48	5	3020	U	N3-C2-O2	5.61	126.13	122.20
48	5	3054	U	N3-C4-C5	-5.61	111.23	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3059	G	C8-N9-C4	5.61	108.65	106.40
48	5	1365	G	N1-C2-N3	5.61	127.27	123.90
48	5	2683	U	C2-N1-C1'	5.61	124.44	117.70
48	5	3006	A	C8-N9-C4	-5.61	103.56	105.80
26	Z	135	ARG	NE-CZ-NH1	5.61	123.11	120.30
31	e	105	ARG	NE-CZ-NH2	-5.61	117.50	120.30
48	5	1434	G	C1'-O4'-C4'	-5.61	105.41	109.90
48	5	1792	C	C4-C5-C6	5.61	120.20	117.40
48	5	180	C	C6-N1-C2	-5.61	118.06	120.30
48	5	1146	C	C2-N3-C4	-5.61	117.10	119.90
48	5	2606	G	C4-C5-C6	5.61	122.17	118.80
48	5	2955	U	N1-C2-N3	5.61	118.27	114.90
49	7	69	C	N3-C4-C5	5.61	124.14	121.90
48	5	636	C	C2-N3-C4	-5.61	117.10	119.90
48	5	2217	U	N3-C2-O2	-5.61	118.28	122.20
48	5	1163	A	C4-C5-N7	-5.60	107.90	110.70
48	5	1171	G	C8-N9-C4	-5.60	104.16	106.40
48	5	2951	G	C5-C6-N1	5.60	114.30	111.50
50	8	19	C	N3-C4-C5	-5.60	119.66	121.90
48	5	631	U	N1-C2-O2	5.60	126.72	122.80
48	5	2631	U	N1-C2-O2	-5.60	118.88	122.80
48	5	2733	A	C2-N3-C4	-5.60	107.80	110.60
48	5	909	G	N1-C6-O6	-5.60	116.54	119.90
48	5	1215	U	N3-C2-O2	5.60	126.12	122.20
48	5	2293	C	C5-C4-N4	-5.60	116.28	120.20
48	5	2389	C	C5-C4-N4	-5.60	116.28	120.20
48	5	106	A	C8-N9-C4	5.60	108.04	105.80
48	5	1926	C	N1-C2-O2	-5.60	115.54	118.90
48	5	1942	U	N1-C2-N3	5.60	118.26	114.90
48	5	2307	G	N3-C2-N2	5.60	123.82	119.90
48	5	2729	U	C4-C5-C6	-5.60	116.34	119.70
48	5	2914	G	N1-C6-O6	-5.60	116.54	119.90
48	5	625	G	C8-N9-C4	-5.60	104.16	106.40
48	5	1360	C	C2-N3-C4	-5.60	117.10	119.90
48	5	2257	C	N1-C2-O2	5.60	122.26	118.90
48	5	431	U	C2-N3-C4	-5.59	123.64	127.00
48	5	590	G	C8-N9-C4	-5.59	104.16	106.40
48	5	1307	G	N1-C6-O6	-5.59	116.54	119.90
48	5	1909	A	N1-C6-N6	-5.59	115.24	118.60
48	5	3140	G	C6-C5-N7	-5.59	127.04	130.40
48	5	1901	A	C6-C5-N7	-5.59	128.38	132.30
48	5	2926	A	C2-N3-C4	5.59	113.40	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	390	G	N9-C4-C5	-5.59	103.16	105.40
48	5	1321	G	N1-C6-O6	5.59	123.25	119.90
48	5	1869	C	C6-N1-C2	5.59	122.54	120.30
48	5	1872	C	N3-C2-O2	-5.59	117.99	121.90
48	5	1601	U	N1-C2-N3	-5.59	111.55	114.90
48	5	1724	U	N3-C2-O2	-5.59	118.29	122.20
48	5	2828	G	N1-C6-O6	-5.59	116.55	119.90
48	5	743	C	C6-N1-C2	-5.59	118.06	120.30
31	e	4	LEU	C-N-CA	-5.59	98.54	122.00
46	t	522	LEU	N-CA-CB	5.59	121.57	110.40
48	5	1845	G	N7-C8-N9	-5.59	110.31	113.10
48	5	2346	C	N3-C4-C5	5.58	124.13	121.90
48	5	2616	C	N3-C4-C5	5.58	124.13	121.90
48	5	3336	A	C4-C5-C6	5.58	119.79	117.00
48	5	2289	U	C5-C4-O4	5.58	129.25	125.90
48	5	2327	U	C2-N1-C1'	-5.58	111.00	117.70
48	5	3318	G	C4-C5-N7	-5.58	108.57	110.80
48	5	33	G	C5-C6-N1	5.58	114.29	111.50
48	5	2191	U	C5-C6-N1	-5.58	119.91	122.70
48	5	2870	C	C5-C4-N4	5.58	124.11	120.20
5	E	31	ARG	NE-CZ-NH2	-5.58	117.51	120.30
48	5	2522	G	N9-C4-C5	-5.58	103.17	105.40
48	5	3010	U	N3-C4-O4	-5.58	115.50	119.40
48	5	2139	A	C5-C6-N6	5.58	128.16	123.70
48	5	42	C	N1-C2-O2	5.58	122.25	118.90
48	5	1510	G	N1-C2-N3	5.58	127.25	123.90
48	5	1841	A	C8-N9-C4	-5.58	103.57	105.80
48	5	2549	G	N7-C8-N9	5.58	115.89	113.10
48	5	3064	U	N1-C2-N3	5.58	118.25	114.90
48	5	3350	C	C5-C6-N1	5.58	123.79	121.00
48	5	658	G	N1-C6-O6	5.57	123.24	119.90
48	5	814	U	N1-C2-N3	-5.57	111.56	114.90
48	5	969	C	C5-C6-N1	-5.57	118.21	121.00
48	5	1049	C	C5-C6-N1	5.57	123.79	121.00
48	5	1670	C	C6-N1-C2	5.57	122.53	120.30
48	5	2719	U	N1-C2-O2	-5.57	118.90	122.80
48	5	2975	U	N3-C4-O4	-5.57	115.50	119.40
48	5	1670	C	C5-C4-N4	-5.57	116.30	120.20
48	5	635	G	N1-C2-N2	5.57	121.21	116.20
48	5	1315	U	C6-N1-C1'	-5.57	113.40	121.20
48	5	2177	G	C8-N9-C4	-5.57	104.17	106.40
48	5	2870	C	C2-N1-C1'	-5.57	112.67	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3008	A	C8-N9-C4	5.57	108.03	105.80
49	7	46	A	N9-C4-C5	5.57	108.03	105.80
48	5	825	U	N3-C4-O4	-5.57	115.50	119.40
48	5	648	C	C2-N1-C1'	5.57	124.92	118.80
48	5	1178	G	C6-N1-C2	-5.57	121.76	125.10
48	5	3007	U	C5-C4-O4	-5.57	122.56	125.90
48	5	3350	C	C6-N1-C2	-5.57	118.07	120.30
7	G	69	LEU	CA-CB-CG	5.57	128.10	115.30
48	5	266	A	N1-C2-N3	5.57	132.08	129.30
48	5	395	A	N7-C8-N9	5.57	116.58	113.80
48	5	1658	G	N1-C6-O6	-5.57	116.56	119.90
48	5	903	U	N1-C2-O2	5.56	126.69	122.80
48	5	3252	G	C8-N9-C4	5.56	108.62	106.40
15	O	23[B]	ILE	CA-C-N	-5.56	104.97	117.20
48	5	957	C	C5-C6-N1	-5.56	118.22	121.00
48	5	1381	A	N9-C4-C5	-5.56	103.58	105.80
48	5	2605	G	C2-N3-C4	5.56	114.68	111.90
49	7	79	A	N7-C8-N9	5.56	116.58	113.80
48	5	1183	C	C5-C6-N1	-5.56	118.22	121.00
48	5	1586	G	C6-N1-C2	-5.56	121.77	125.10
48	5	2369	G	C8-N9-C4	5.56	108.62	106.40
48	5	2699	G	N3-C4-N9	5.56	129.33	126.00
49	7	5	G	C5-C6-N1	-5.56	108.72	111.50
48	5	1365	G	C4-N9-C1'	5.56	133.72	126.50
48	5	2889	C	N3-C4-N4	-5.56	114.11	118.00
48	5	828	A	N1-C6-N6	-5.55	115.27	118.60
48	5	966	U	N3-C4-C5	5.55	117.93	114.60
48	5	2158	A	C6-N1-C2	-5.55	115.27	118.60
48	5	2287	C	C6-N1-C2	-5.55	118.08	120.30
48	5	3219	G	N3-C2-N2	5.55	123.79	119.90
48	5	405	U	C5-C4-O4	-5.55	122.57	125.90
48	5	1140	G	C5-C6-N1	5.55	114.28	111.50
48	5	1869	C	N3-C4-C5	5.55	124.12	121.90
49	7	101	G	N9-C4-C5	-5.55	103.18	105.40
48	5	546	C	C6-N1-C2	-5.55	118.08	120.30
48	5	580	C	N3-C4-C5	-5.55	119.68	121.90
48	5	954	U	C6-N1-C2	-5.55	117.67	121.00
48	5	2975	U	C4-C5-C6	-5.55	116.37	119.70
48	5	3287	U	N3-C2-O2	-5.55	118.31	122.20
50	8	15	G	C5-C6-O6	-5.55	125.27	128.60
48	5	285	A	C8-N9-C4	-5.55	103.58	105.80
48	5	961	C	C4-C5-C6	5.55	120.17	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1305	U	C6-N1-C1'	-5.55	113.43	121.20
48	5	422	A	C8-N9-C4	5.55	108.02	105.80
48	5	1380	G	C8-N9-C4	5.55	108.62	106.40
48	5	1843	C	C5-C6-N1	5.55	123.77	121.00
48	5	1940	G	C8-N9-C4	5.55	108.62	106.40
48	5	2415	C	C6-N1-C2	5.55	122.52	120.30
49	7	1	G	N3-C4-N9	5.54	129.33	126.00
50	8	87	G	C5-C6-O6	-5.54	125.27	128.60
48	5	98	G	N9-C4-C5	-5.54	103.18	105.40
48	5	3103	A	C5-C6-N1	5.54	120.47	117.70
49	7	1	G	C6-C5-N7	-5.54	127.07	130.40
49	7	37	G	N9-C4-C5	-5.54	103.18	105.40
50	8	12	A	C4-C5-C6	-5.54	114.23	117.00
50	8	112	U	C6-N1-C1'	5.54	128.96	121.20
48	5	2116	G	C4-C5-C6	5.54	122.12	118.80
49	7	82	G	N9-C4-C5	5.54	107.62	105.40
48	5	2996	U	C6-N1-C1'	-5.54	113.44	121.20
48	5	2658	G	N3-C2-N2	-5.54	116.02	119.90
48	5	3003	G	C5-N7-C8	-5.54	101.53	104.30
48	5	3052	G	C4-N9-C1'	-5.54	119.30	126.50
48	5	3395	G	N1-C6-O6	5.54	123.22	119.90
48	5	848	A	N1-C2-N3	5.54	132.07	129.30
48	5	2642	A	C8-N9-C4	5.54	108.02	105.80
48	5	3394	U	N3-C4-O4	-5.54	115.52	119.40
50	8	147	U	N3-C4-C5	5.54	117.92	114.60
27	a	17	ALA	C-N-CA	-5.54	110.67	122.30
48	5	911	C	C4-C5-C6	5.54	120.17	117.40
48	5	2172	A	N1-C6-N6	5.54	121.92	118.60
48	5	914	A	N1-C2-N3	5.53	132.07	129.30
48	5	3055	U	C2-N1-C1'	5.53	124.34	117.70
50	8	13	A	C5-N7-C8	-5.53	101.13	103.90
48	5	666	A	N1-C2-N3	5.53	132.07	129.30
48	5	911	C	C5-C6-N1	-5.53	118.23	121.00
48	5	1343	A	C8-N9-C4	-5.53	103.59	105.80
48	5	1441	G	C5-C6-N1	5.53	114.27	111.50
48	5	1797	A	C4-C5-N7	-5.53	107.94	110.70
48	5	3302	U	N3-C4-C5	5.53	117.92	114.60
13	M	77	ARG	NE-CZ-NH1	-5.53	117.53	120.30
48	5	1754	G	N1-C2-N2	-5.53	111.22	116.20
48	5	852	U	N1-C2-N3	5.53	118.22	114.90
48	5	960	U	C4-C5-C6	5.53	123.02	119.70
48	5	1165	A	N7-C8-N9	-5.53	111.04	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1847	A	C2-N3-C4	-5.53	107.84	110.60
48	5	2948	C	N3-C4-C5	5.53	124.11	121.90
49	7	38	U	N3-C4-C5	5.53	117.92	114.60
48	5	637	C	C5-C6-N1	-5.53	118.24	121.00
48	5	1495	U	C6-N1-C2	-5.53	117.69	121.00
48	5	1878	G	C4-N9-C1'	5.53	133.68	126.50
48	5	2717	U	N3-C2-O2	-5.52	118.33	122.20
48	5	3179	U	N3-C4-C5	5.52	117.91	114.60
48	5	340	C	N1-C2-N3	5.52	123.06	119.20
48	5	1007	U	C6-N1-C2	5.52	124.31	121.00
48	5	1905	G	N1-C6-O6	-5.52	116.59	119.90
48	5	2396	G	N1-C6-O6	-5.52	116.59	119.90
48	5	2654	C	C2-N3-C4	-5.52	117.14	119.90
48	5	1427	U	N3-C4-O4	-5.52	115.54	119.40
48	5	3215	A	C5-C6-N1	-5.52	114.94	117.70
48	5	3152	U	C5-C6-N1	-5.52	119.94	122.70
48	5	517	G	C4-C5-C6	5.51	122.11	118.80
48	5	1508	C	N1-C2-O2	5.51	122.21	118.90
48	5	2706	G	N3-C4-C5	-5.51	125.84	128.60
48	5	1125	U	N3-C4-O4	-5.51	115.54	119.40
48	5	25	U	N1-C2-N3	5.51	118.20	114.90
48	5	923	C	C5-C6-N1	-5.51	118.25	121.00
48	5	1338	C	C4-C5-C6	5.51	120.15	117.40
48	5	3042	U	N1-C2-N3	5.51	118.20	114.90
48	5	1295	G	C5-C6-O6	5.51	131.91	128.60
48	5	2335	G	C6-N1-C2	-5.51	121.80	125.10
50	8	17	A	C5-N7-C8	-5.51	101.15	103.90
48	5	1491	A	C4-C5-C6	5.50	119.75	117.00
48	5	347	G	C8-N9-C4	5.50	108.60	106.40
48	5	675	C	N1-C2-O2	-5.50	115.60	118.90
48	5	2181	C	C6-N1-C2	-5.50	118.10	120.30
49	7	90	U	C6-N1-C2	5.50	124.30	121.00
49	7	100	C	N3-C4-C5	5.50	124.10	121.90
48	5	2134	G	N3-C4-N9	5.50	129.30	126.00
48	5	2182	A	C4-C5-C6	-5.50	114.25	117.00
48	5	1938	U	C5-C6-N1	-5.50	119.95	122.70
48	5	2830	G	N1-C6-O6	-5.50	116.60	119.90
48	5	2843	U	N3-C2-O2	-5.50	118.35	122.20
48	5	844	G	N7-C8-N9	-5.50	110.35	113.10
48	5	1409	G	N9-C4-C5	5.50	107.60	105.40
48	5	1887	A	N9-C4-C5	-5.50	103.60	105.80
48	5	2386	A	C5-N7-C8	-5.50	101.15	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2800	G	C4-C5-N7	-5.50	108.60	110.80
50	8	104	A	N1-C2-N3	-5.50	126.55	129.30
48	5	46	U	C2-N3-C4	5.50	130.30	127.00
48	5	335	G	N1-C6-O6	-5.50	116.60	119.90
48	5	3015	G	N1-C6-O6	-5.50	116.60	119.90
48	5	2321	A	C5-C6-N1	5.50	120.45	117.70
48	5	2665	U	C4-C5-C6	-5.50	116.40	119.70
48	5	145	G	N9-C4-C5	5.49	107.60	105.40
48	5	419	G	C4-C5-N7	5.49	113.00	110.80
48	5	811	U	N1-C2-N3	5.49	118.20	114.90
48	5	2109	U	N3-C4-O4	-5.49	115.56	119.40
48	5	359	U	N3-C4-C5	5.49	117.89	114.60
48	5	2344	U	C2-N3-C4	-5.49	123.70	127.00
27	a	9	ARG	NE-CZ-NH1	-5.49	117.55	120.30
49	7	19	C	N3-C4-C5	5.49	124.10	121.90
48	5	21	G	N3-C4-C5	5.49	131.34	128.60
48	5	414	U	N3-C4-O4	5.49	123.24	119.40
48	5	620	U	C2-N1-C1'	5.49	124.29	117.70
48	5	1305	U	C6-N1-C2	5.49	124.29	121.00
48	5	2757	U	C5-C4-O4	-5.49	122.61	125.90
50	8	103	G	C5-C6-N1	5.49	114.25	111.50
48	5	591	G	C6-C5-N7	-5.49	127.11	130.40
48	5	809	G	C5-N7-C8	5.49	107.04	104.30
48	5	41	G	C6-C5-N7	-5.48	127.11	130.40
48	5	229	G	N1-C6-O6	5.48	123.19	119.90
48	5	953	G	N3-C4-C5	5.48	131.34	128.60
48	5	1170	A	C8-N9-C4	5.48	107.99	105.80
48	5	1189	C	N3-C2-O2	5.48	125.74	121.90
48	5	1359	C	N3-C4-N4	5.48	121.84	118.00
12	L	47	ALA	C-N-CD	5.48	139.91	128.40
19	S	167	ARG	NE-CZ-NH2	-5.48	117.56	120.30
48	5	54	C	N3-C4-N4	-5.48	114.16	118.00
48	5	715	A	C5-C6-N1	5.48	120.44	117.70
48	5	3010	U	C5-C4-O4	5.48	129.19	125.90
48	5	3049	A	C8-N9-C4	5.48	107.99	105.80
48	5	1724	U	N1-C2-N3	5.48	118.19	114.90
48	5	1906	G	C2-N3-C4	-5.48	109.16	111.90
48	5	648	C	C4-C5-C6	5.48	120.14	117.40
48	5	996	A	C5-C6-N1	5.48	120.44	117.70
48	5	1115	G	C6-N1-C2	-5.48	121.81	125.10
48	5	1365	G	N1-C2-N2	-5.48	111.27	116.20
48	5	1538	G	N9-C4-C5	-5.48	103.21	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1931	U	C5-C4-O4	5.48	129.19	125.90
48	5	2433	U	C5-C6-N1	-5.48	119.96	122.70
48	5	997	A	N7-C8-N9	5.48	116.54	113.80
48	5	2434	U	N3-C2-O2	-5.48	118.37	122.20
48	5	3021	A	N1-C6-N6	-5.48	115.31	118.60
48	5	3043	C	N3-C4-N4	-5.47	114.17	118.00
48	5	277	G	C5-C6-O6	5.47	131.88	128.60
48	5	341	G	C5-N7-C8	-5.47	101.56	104.30
48	5	2112	U	C6-N1-C2	-5.47	117.72	121.00
48	5	3336	A	C5-C6-N1	-5.47	114.96	117.70
48	5	810	A	C5-C6-N6	5.47	128.08	123.70
48	5	1176	C	C4-C5-C6	5.47	120.14	117.40
48	5	2810	C	C6-N1-C2	-5.47	118.11	120.30
48	5	419	G	C5-C6-N1	5.47	114.23	111.50
48	5	616	G	C2-N3-C4	5.47	114.64	111.90
48	5	1190	A	C5-N7-C8	5.47	106.63	103.90
50	8	11	C	N1-C2-O2	5.47	122.18	118.90
48	5	1159	A	C4-C5-C6	-5.47	114.27	117.00
48	5	1178	G	N7-C8-N9	5.47	115.83	113.10
48	5	1312	C	C5-C4-N4	5.47	124.03	120.20
48	5	3326	G	C5-C6-O6	5.47	131.88	128.60
48	5	3028	G	N3-C2-N2	5.47	123.73	119.90
41	o	41	ARG	NE-CZ-NH2	-5.46	117.57	120.30
48	5	1937	U	C5-C6-N1	-5.46	119.97	122.70
48	5	2119	A	C6-N1-C2	-5.46	115.32	118.60
48	5	1086	C	C5-C6-N1	5.46	123.73	121.00
48	5	1144	U	C4-C5-C6	5.46	122.98	119.70
48	5	2655	U	N3-C4-C5	5.46	117.88	114.60
48	5	2808	A	C6-C5-N7	-5.46	128.48	132.30
48	5	266	A	C4-C5-C6	5.46	119.73	117.00
48	5	347	G	N7-C8-N9	-5.46	110.37	113.10
48	5	519	A	C6-C5-N7	-5.46	128.48	132.30
48	5	1844	C	C6-N1-C2	-5.46	118.12	120.30
48	5	436	A	C4-C5-N7	5.46	113.43	110.70
48	5	745	C	N1-C2-O2	-5.46	115.62	118.90
48	5	1187	C	N3-C4-N4	-5.46	114.18	118.00
48	5	1441	G	C5-N7-C8	5.46	107.03	104.30
48	5	2385	G	C8-N9-C1'	5.46	134.10	127.00
48	5	3347	A	C8-N9-C4	5.46	107.98	105.80
49	7	33	U	N1-C2-O2	5.46	126.62	122.80
49	7	105	C	C2-N3-C4	5.46	122.63	119.90
32	f	91	ALA	N-CA-CB	5.46	117.74	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	t	522	LEU	CB-CA-C	-5.46	99.83	110.20
48	5	411	U	C2-N3-C4	-5.46	123.73	127.00
48	5	1773	C	C4-C5-C6	5.46	120.13	117.40
48	5	2524	A	N3-C4-C5	5.46	130.62	126.80
48	5	2549	G	C5-C6-N1	-5.46	108.77	111.50
48	5	1380	G	C2-N3-C4	-5.46	109.17	111.90
48	5	1660	C	N1-C2-O2	-5.45	115.63	118.90
48	5	2607	G	C8-N9-C4	-5.45	104.22	106.40
48	5	2634	U	N3-C2-O2	5.45	126.02	122.20
48	5	2728	G	N1-C2-N2	5.45	121.11	116.20
48	5	2966	G	C5-C6-N1	5.45	114.23	111.50
48	5	2174	G	N1-C2-N3	5.45	127.17	123.90
48	5	1127	G	N3-C4-N9	5.45	129.27	126.00
48	5	1447	G	N9-C4-C5	5.45	107.58	105.40
48	5	1797	A	C8-N9-C4	5.45	107.98	105.80
48	5	2958	A	N1-C6-N6	-5.45	115.33	118.60
48	5	844	G	C8-N9-C4	5.45	108.58	106.40
48	5	1191	U	C4-C5-C6	5.45	122.97	119.70
48	5	2904	U	N1-C2-N3	5.45	118.17	114.90
48	5	388	G	N3-C2-N2	-5.45	116.09	119.90
48	5	1045	C	C2-N3-C4	-5.45	117.18	119.90
48	5	1889	G	C4-C5-N7	-5.45	108.62	110.80
48	5	3052	G	C6-C5-N7	5.45	133.67	130.40
48	5	3064	U	C2-N3-C4	-5.45	123.73	127.00
49	7	105	C	N3-C4-C5	-5.45	119.72	121.90
3	C	73	ARG	CB-CG-CD	-5.45	97.44	111.60
46	t	53	LYS	CB-CA-C	-5.45	99.51	110.40
48	5	1242	G	N3-C4-C5	-5.45	125.88	128.60
48	5	2608	G	N1-C6-O6	-5.45	116.63	119.90
48	5	3362	A	C4-C5-N7	5.45	113.42	110.70
27	a	4	ARG	NE-CZ-NH1	-5.44	117.58	120.30
48	5	2145	A	C6-N1-C2	-5.44	115.33	118.60
46	t	519	ARG	CB-CA-C	-5.44	99.52	110.40
48	5	600	G	C4-N9-C1'	5.44	133.58	126.50
48	5	810	A	C4-C5-N7	-5.44	107.98	110.70
48	5	1007	U	C5-C4-O4	-5.44	122.64	125.90
48	5	1041	U	C5-C6-N1	-5.44	119.98	122.70
48	5	2429	G	N9-C4-C5	5.44	107.58	105.40
15	O	197[B]	PHE	CA-C-N	-5.44	105.32	116.20
48	5	1176	C	C6-N1-C2	5.44	122.48	120.30
48	5	1335	C	C6-N1-C2	-5.44	118.12	120.30
2	B	4	ARG	NE-CZ-NH2	-5.44	117.58	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	516	A	C5-C6-N6	-5.44	119.35	123.70
48	5	879	U	C6-N1-C1'	-5.44	113.59	121.20
48	5	1306	G	C5-C6-N1	5.44	114.22	111.50
49	7	8	G	N3-C2-N2	5.44	123.71	119.90
48	5	2777	G	C8-N9-C4	-5.44	104.22	106.40
48	5	2894	C	C2-N3-C4	-5.44	117.18	119.90
48	5	1838	G	C6-N1-C2	-5.43	121.84	125.10
48	5	1300	G	N1-C6-O6	5.43	123.16	119.90
48	5	2320	A	N7-C8-N9	-5.43	111.08	113.80
48	5	2374	C	N3-C4-N4	-5.43	114.20	118.00
48	5	2635	A	N1-C6-N6	-5.43	115.34	118.60
49	7	61	G	C8-N9-C4	5.43	108.57	106.40
48	5	339	C	C6-N1-C2	-5.43	118.13	120.30
48	5	1374	G	N1-C2-N2	-5.43	111.31	116.20
48	5	1885	U	N1-C2-O2	-5.43	119.00	122.80
48	5	3112	G	C8-N9-C4	5.43	108.57	106.40
49	7	8	G	N1-C2-N2	-5.43	111.31	116.20
48	5	2197	C	C6-N1-C1'	5.43	127.31	120.80
48	5	2309	A	C8-N9-C4	5.43	107.97	105.80
48	5	2632	G	N1-C2-N3	-5.43	120.64	123.90
48	5	706	A	N9-C4-C5	-5.43	103.63	105.80
48	5	2665	U	N1-C2-O2	5.43	126.60	122.80
48	5	1191	U	C5-C6-N1	-5.42	119.99	122.70
48	5	2744	U	N3-C4-O4	-5.42	115.60	119.40
48	5	2837	A	C8-N9-C4	5.42	107.97	105.80
48	5	3341	U	N3-C2-O2	-5.42	118.40	122.20
49	7	115	G	C8-N9-C4	-5.42	104.23	106.40
46	t	57	ARG	CB-CA-C	-5.42	99.55	110.40
48	5	3173	G	C4-C5-N7	5.42	112.97	110.80
27	a	28	HIS	CB-CA-C	-5.42	99.56	110.40
46	t	436	PRO	N-CA-CB	5.42	109.81	103.30
48	5	1858	A	C4-N9-C1'	5.42	136.06	126.30
48	5	2148	U	N3-C4-C5	5.42	117.85	114.60
50	8	156	U	C5-C6-N1	5.42	125.41	122.70
48	5	2904	U	N3-C2-O2	-5.42	118.41	122.20
48	5	3323	A	N1-C2-N3	5.42	132.01	129.30
48	5	987	U	C5-C4-O4	5.42	129.15	125.90
48	5	1307	G	N3-C2-N2	5.42	123.69	119.90
48	5	1447	G	N7-C8-N9	5.42	115.81	113.10
48	5	2379	U	N1-C2-N3	5.42	118.15	114.90
48	5	1209	G	N1-C2-N2	5.42	121.08	116.20
48	5	1925	U	N1-C2-N3	5.42	118.15	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3143	C	N3-C2-O2	5.42	125.69	121.90
25	Y	14	LYS	CD-CE-NZ	5.42	124.16	111.70
48	5	514	G	N9-C4-C5	-5.42	103.23	105.40
48	5	1505	C	C4-C5-C6	5.42	120.11	117.40
48	5	51	A	N1-C6-N6	5.41	121.85	118.60
48	5	1907	C	C6-N1-C1'	5.41	127.30	120.80
48	5	2323	G	C8-N9-C4	-5.41	104.23	106.40
48	5	2375	G	C4-C5-N7	5.41	112.97	110.80
48	5	3035	A	C8-N9-C4	5.41	107.97	105.80
48	5	1396	C	C6-N1-C2	5.41	122.46	120.30
48	5	2377	G	N3-C4-C5	-5.41	125.89	128.60
48	5	2257	C	C5-C6-N1	5.41	123.70	121.00
48	5	2393	G	C8-N9-C1'	-5.41	119.97	127.00
48	5	3045	G	N3-C4-C5	-5.41	125.89	128.60
48	5	3387	U	N1-C2-O2	5.41	126.58	122.80
48	5	800	G	N9-C4-C5	-5.41	103.24	105.40
48	5	339	C	C6-N1-C1'	5.41	127.29	120.80
48	5	972	A	C4-C5-C6	5.41	119.70	117.00
48	5	1192	C	N1-C2-N3	5.41	122.98	119.20
48	5	1319	G	N1-C2-N2	-5.41	111.33	116.20
48	5	1321	G	C8-N9-C4	5.41	108.56	106.40
48	5	3083	G	N1-C2-N3	5.41	127.14	123.90
48	5	2355	G	C5-C6-O6	-5.40	125.36	128.60
46	t	20	LEU	CB-CA-C	-5.40	99.93	110.20
48	5	1110	U	N1-C2-N3	-5.40	111.66	114.90
48	5	1389	G	C8-N9-C4	5.40	108.56	106.40
48	5	2134	G	N3-C2-N2	5.40	123.68	119.90
48	5	2231	C	C2-N1-C1'	5.40	124.74	118.80
48	5	2279	A	C2-N3-C4	-5.40	107.90	110.60
48	5	2300	G	C5-C6-N1	5.40	114.20	111.50
48	5	2755	C	N1-C2-O2	-5.40	115.66	118.90
50	8	43	A	C8-N9-C4	-5.40	103.64	105.80
1	A	207	VAL	CB-CA-C	-5.40	101.14	111.40
48	5	283	G	C5-C6-O6	-5.40	125.36	128.60
48	5	1534	A	C6-N1-C2	-5.40	115.36	118.60
49	7	1	G	C8-N9-C1'	-5.40	119.98	127.00
48	5	2399	A	C5-C6-N6	-5.40	119.38	123.70
49	7	48	U	C5-C6-N1	-5.40	120.00	122.70
16	P	127	ARG	NE-CZ-NH2	-5.40	117.60	120.30
48	5	356	C	C5-C6-N1	-5.40	118.30	121.00
48	5	930	U	N1-C2-O2	5.40	126.58	122.80
48	5	3028	G	C8-N9-C1'	-5.40	119.98	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	998	A	C5-N7-C8	5.39	106.60	103.90
46	t	135	PRO	N-CA-CB	5.39	109.77	103.30
48	5	1445	U	N1-C2-O2	-5.39	119.03	122.80
48	5	2614	G	C4-N9-C1'	5.39	133.51	126.50
48	5	799	G	C6-N1-C2	-5.39	121.86	125.10
48	5	2123	G	N3-C4-C5	-5.39	125.91	128.60
48	5	96	G	C4-C5-N7	-5.39	108.64	110.80
48	5	555	U	N1-C2-O2	-5.39	119.03	122.80
48	5	1399	A	N9-C4-C5	-5.39	103.64	105.80
48	5	1808	G	C5-C6-O6	-5.39	125.37	128.60
48	5	3078	U	C2-N1-C1'	5.39	124.17	117.70
48	5	3336	A	C2-N3-C4	-5.39	107.91	110.60
48	5	2524	A	C5-C6-N1	-5.39	115.01	117.70
48	5	63	A	N9-C4-C5	-5.39	103.65	105.80
48	5	76	G	N1-C6-O6	5.39	123.13	119.90
48	5	3113	A	C6-N1-C2	-5.39	115.37	118.60
48	5	1126	G	C5-C6-N1	-5.38	108.81	111.50
48	5	2184	U	N3-C4-C5	5.38	117.83	114.60
48	5	2430	A	N1-C2-N3	5.38	131.99	129.30
48	5	3377	G	C6-N1-C2	-5.38	121.87	125.10
48	5	661	G	C5-C6-O6	5.38	131.83	128.60
48	5	1170	A	N9-C4-C5	-5.38	103.65	105.80
48	5	1433	A	C6-N1-C2	5.38	121.83	118.60
48	5	3227	A	C2-N3-C4	-5.38	107.91	110.60
48	5	706	A	N1-C6-N6	5.38	121.83	118.60
48	5	1128	U	C2-N3-C4	-5.38	123.77	127.00
48	5	3045	G	C4-C5-N7	-5.38	108.65	110.80
48	5	14	U	N3-C4-C5	5.38	117.83	114.60
48	5	2149	A	N9-C4-C5	5.38	107.95	105.80
48	5	3031	G	C5-C6-O6	-5.38	125.37	128.60
48	5	3115	C	N1-C2-N3	5.38	122.96	119.20
48	5	3374	U	C6-N1-C2	5.38	124.23	121.00
46	t	170	LEU	N-CA-CB	5.38	121.15	110.40
48	5	1869	C	C5-C6-N1	-5.38	118.31	121.00
48	5	2242	A	N9-C4-C5	5.38	107.95	105.80
48	5	2754	G	N3-C4-N9	5.38	129.22	126.00
5	E	173	MET	CB-CG-SD	-5.37	96.28	112.40
48	5	282	G	N7-C8-N9	5.37	115.79	113.10
48	5	408	A	C2-N3-C4	-5.37	107.91	110.60
48	5	2976	A	C5-C6-N1	5.37	120.39	117.70
48	5	3246	G	N1-C6-O6	5.37	123.12	119.90
48	5	90	C	C6-N1-C2	-5.37	118.15	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	141	C	C6-N1-C2	-5.37	118.15	120.30
48	5	590	G	C2-N3-C4	5.37	114.58	111.90
48	5	688	G	N3-C4-N9	-5.37	122.78	126.00
48	5	1804	A	C8-N9-C4	5.37	107.95	105.80
48	5	2361	A	N9-C4-C5	5.37	107.95	105.80
48	5	354	U	C5-C6-N1	-5.37	120.02	122.70
48	5	887	G	C4-C5-C6	5.37	122.02	118.80
48	5	1131	G	N1-C2-N3	5.37	127.12	123.90
48	5	1143	A	C2-N3-C4	-5.37	107.92	110.60
48	5	536	U	N3-C4-O4	-5.37	115.64	119.40
48	5	632	G	C5-C6-N1	5.37	114.18	111.50
48	5	2930	A	C5-C6-N1	5.37	120.38	117.70
48	5	3350	C	N1-C2-O2	5.37	122.12	118.90
48	5	498	A	N1-C6-N6	-5.36	115.38	118.60
48	5	969	C	C6-N1-C2	5.36	122.45	120.30
48	5	1152	G	N9-C4-C5	5.36	107.55	105.40
48	5	2609	A	N7-C8-N9	-5.36	111.12	113.80
48	5	2794	G	C5-C6-O6	-5.36	125.38	128.60
48	5	3047	U	N3-C2-O2	-5.36	118.44	122.20
48	5	1011	A	C2-N3-C4	-5.36	107.92	110.60
48	5	3368	U	C2-N1-C1'	-5.36	111.27	117.70
48	5	965	A	N1-C2-N3	-5.36	126.62	129.30
48	5	1369	A	N1-C2-N3	-5.36	126.62	129.30
48	5	2549	G	C5-N7-C8	-5.36	101.62	104.30
48	5	2639	G	C6-N1-C2	-5.36	121.88	125.10
48	5	3055	U	C6-N1-C1'	-5.36	113.69	121.20
48	5	91	G	N9-C4-C5	5.36	107.54	105.40
48	5	1870	C	N1-C2-O2	-5.36	115.69	118.90
48	5	2158	A	C5-C6-N1	5.36	120.38	117.70
48	5	909	G	N7-C8-N9	-5.36	110.42	113.10
48	5	3141	A	N1-C2-N3	5.36	131.98	129.30
48	5	3263	G	N1-C6-O6	-5.36	116.69	119.90
48	5	372	A	N1-C6-N6	5.36	121.81	118.60
48	5	799	G	C5-C6-N1	5.36	114.18	111.50
48	5	1905	G	N9-C4-C5	5.36	107.54	105.40
48	5	2376	G	C8-N9-C1'	-5.36	120.04	127.00
48	5	496	C	N3-C2-O2	-5.35	118.15	121.90
48	5	1788	C	C4-C5-C6	5.35	120.08	117.40
48	5	1917	C	C4-C5-C6	5.35	120.08	117.40
48	5	1833	G	N1-C2-N2	-5.35	111.38	116.20
48	5	859	G	N3-C4-C5	-5.35	125.92	128.60
48	5	1927	G	C8-N9-C4	-5.35	104.26	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2658	G	C8-N9-C4	5.35	108.54	106.40
48	5	3019	U	C6-N1-C2	5.35	124.21	121.00
48	5	3245	A	C4-C5-C6	5.35	119.67	117.00
48	5	646	A	N1-C2-N3	5.34	131.97	129.30
48	5	1597	C	N3-C4-C5	-5.34	119.76	121.90
48	5	2980	U	N3-C2-O2	-5.34	118.46	122.20
48	5	3179	U	N1-C2-O2	5.34	126.54	122.80
48	5	1180	A	C2-N3-C4	-5.34	107.93	110.60
48	5	2144	A	N1-C6-N6	5.34	121.81	118.60
48	5	3003	G	N3-C4-N9	-5.34	122.79	126.00
48	5	98	G	C4-C5-N7	5.34	112.94	110.80
48	5	363	G	C5-N7-C8	5.34	106.97	104.30
48	5	696	C	C2-N1-C1'	5.34	124.67	118.80
48	5	2767	U	N3-C4-O4	-5.34	115.66	119.40
48	5	3025	C	N3-C2-O2	-5.34	118.16	121.90
48	5	3369	G	C5-C6-N1	5.34	114.17	111.50
48	5	2342	U	N3-C4-C5	5.34	117.80	114.60
48	5	2369	G	N3-C2-N2	5.34	123.64	119.90
48	5	3112	G	N7-C8-N9	-5.34	110.43	113.10
48	5	3366	G	N1-C6-O6	-5.34	116.70	119.90
50	8	3	A	C5-C6-N1	5.34	120.37	117.70
48	5	587	U	N3-C4-O4	-5.34	115.67	119.40
48	5	961	C	C5-C6-N1	-5.34	118.33	121.00
48	5	1161	G	C6-C5-N7	5.34	133.60	130.40
48	5	2836	C	N1-C2-O2	-5.34	115.70	118.90
14	N	201	ARG	NE-CZ-NH1	5.33	122.97	120.30
48	5	1490	A	C6-C5-N7	-5.33	128.56	132.30
48	5	1586	G	C6-C5-N7	-5.33	127.20	130.40
48	5	1628	C	C6-N1-C2	-5.33	118.17	120.30
48	5	2621	G	N1-C2-N2	5.33	121.00	116.20
48	5	735	A	N7-C8-N9	5.33	116.47	113.80
48	5	3189	G	C6-N1-C2	-5.33	121.90	125.10
50	8	135	G	C4-C5-N7	-5.33	108.67	110.80
48	5	1107	C	N3-C4-C5	5.33	124.03	121.90
48	5	227	G	C5-C6-O6	-5.33	125.40	128.60
48	5	1220	U	C5-C6-N1	-5.33	120.03	122.70
48	5	1939	G	C8-N9-C1'	-5.33	120.07	127.00
48	5	2664	C	C4-C5-C6	-5.33	114.73	117.40
48	5	1129	A	C5-C6-N1	5.33	120.36	117.70
48	5	1376	C	C6-N1-C2	5.33	122.43	120.30
48	5	1838	G	C4-C5-N7	-5.33	108.67	110.80
48	5	2763	U	C5-C4-O4	-5.33	122.70	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2965	U	N3-C4-O4	5.33	123.13	119.40
48	5	656	A	C5-N7-C8	5.33	106.56	103.90
48	5	948	C	C4-C5-C6	5.33	120.06	117.40
48	5	2625	C	N3-C4-C5	5.33	124.03	121.90
48	5	2636	A	N1-C6-N6	-5.33	115.40	118.60
48	5	3259	U	C6-N1-C2	-5.33	117.80	121.00
48	5	299	G	C5-C6-N1	5.33	114.16	111.50
48	5	322	U	C2-N3-C4	-5.33	123.81	127.00
48	5	637	C	C6-N1-C1'	5.33	127.19	120.80
48	5	1007	U	N3-C4-C5	5.33	117.80	114.60
48	5	1080	A	N1-C2-N3	5.33	131.96	129.30
48	5	1239	C	C6-N1-C2	-5.33	118.17	120.30
48	5	2261	G	N7-C8-N9	-5.33	110.44	113.10
48	5	564	G	C5-N7-C8	5.32	106.96	104.30
48	5	2998	U	C2-N3-C4	-5.32	123.81	127.00
48	5	905	U	C2-N3-C4	-5.32	123.81	127.00
49	7	14	U	N1-C2-N3	5.32	118.09	114.90
48	5	327	A	N1-C2-N3	-5.32	126.64	129.30
48	5	381	U	C5-C6-N1	-5.32	120.04	122.70
48	5	637	C	C2-N3-C4	-5.32	117.24	119.90
48	5	2632	G	N3-C2-N2	5.32	123.62	119.90
48	5	524	U	C2-N1-C1'	-5.32	111.32	117.70
48	5	2572	C	C6-N1-C1'	-5.32	114.42	120.80
48	5	2721	A	N3-C4-C5	-5.32	123.08	126.80
48	5	979	U	C2-N1-C1'	5.32	124.08	117.70
48	5	1158	A	N9-C4-C5	-5.32	103.67	105.80
48	5	2639	G	N1-C6-O6	5.32	123.09	119.90
48	5	3043	C	N1-C2-O2	5.32	122.09	118.90
48	5	641	C	C6-N1-C2	-5.32	118.17	120.30
48	5	1081	U	C5-C6-N1	5.32	125.36	122.70
48	5	1786	G	N3-C4-C5	-5.32	125.94	128.60
48	5	2928	C	N3-C4-C5	-5.32	119.77	121.90
48	5	2955	U	C6-N1-C2	-5.32	117.81	121.00
48	5	3346	U	C5-C6-N1	-5.32	120.04	122.70
48	5	2790	A	C5-C6-N1	5.31	120.36	117.70
48	5	1017	C	C2-N1-C1'	5.31	124.64	118.80
48	5	1925	U	N3-C4-C5	5.31	117.79	114.60
48	5	2175	U	C2-N1-C1'	-5.31	111.32	117.70
48	5	3138	U	N3-C2-O2	5.31	125.92	122.20
50	8	6	U	C5-C4-O4	-5.31	122.71	125.90
5	E	26	ARG	NE-CZ-NH2	-5.31	117.64	120.30
48	5	588	G	C5-C6-N1	5.31	114.16	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1906	G	C6-N1-C2	-5.31	121.91	125.10
48	5	2364	G	C8-N9-C4	-5.31	104.28	106.40
48	5	2897	A	C5-N7-C8	5.31	106.56	103.90
48	5	3101	G	N1-C2-N2	-5.31	111.42	116.20
48	5	3247	G	C4-C5-N7	-5.31	108.68	110.80
48	5	1518	U	C4-C5-C6	-5.31	116.52	119.70
49	7	83	U	N3-C4-O4	-5.31	115.69	119.40
48	5	1327	C	C5-C4-N4	5.31	123.91	120.20
48	5	2891	U	N1-C2-N3	5.31	118.08	114.90
48	5	3307	A	C6-N1-C2	5.31	121.78	118.60
48	5	831	G	C5-C6-O6	-5.30	125.42	128.60
48	5	929	A	C5-N7-C8	5.30	106.55	103.90
48	5	2374	C	C5-C4-N4	5.30	123.91	120.20
50	8	29	U	C5-C6-N1	-5.30	120.05	122.70
50	8	45	C	C4-C5-C6	5.30	120.05	117.40
48	5	3110	C	C5-C6-N1	-5.30	118.35	121.00
26	Z	121	ARG	NE-CZ-NH1	5.30	122.95	120.30
48	5	288	C	C6-N1-C2	5.30	122.42	120.30
48	5	928	C	C6-N1-C2	-5.30	118.18	120.30
48	5	992	A	C8-N9-C4	5.30	107.92	105.80
48	5	1846	C	N1-C2-N3	5.30	122.91	119.20
48	5	2606	G	C6-C5-N7	-5.30	127.22	130.40
48	5	3243	A	C4-C5-C6	5.30	119.65	117.00
14	N	174	ILE	CG1-CB-CG2	-5.30	99.74	111.40
48	5	406	G	O4'-C1'-N9	5.30	112.44	108.20
48	5	2841	G	N3-C2-N2	5.30	123.61	119.90
48	5	2893	C	N3-C2-O2	5.30	125.61	121.90
49	7	93	C	N3-C4-C5	5.30	124.02	121.90
48	5	1178	G	C5-C6-O6	-5.30	125.42	128.60
48	5	2321	A	C8-N9-C4	5.30	107.92	105.80
48	5	595	G	C5-C6-O6	5.30	131.78	128.60
48	5	975	C	N1-C2-N3	5.30	122.91	119.20
48	5	1203	A	N1-C6-N6	5.30	121.78	118.60
48	5	1239	C	C2-N1-C1'	5.30	124.63	118.80
48	5	1741	A	N1-C2-N3	5.30	131.95	129.30
48	5	2379	U	C5-C6-N1	-5.30	120.05	122.70
48	5	3193	C	C4-C5-C6	5.30	120.05	117.40
48	5	1164	G	C2-N3-C4	-5.29	109.25	111.90
48	5	2915	U	N3-C4-O4	-5.29	115.69	119.40
46	t	59	LEU	CB-CA-C	-5.29	100.14	110.20
48	5	365	A	C4-C5-N7	5.29	113.35	110.70
48	5	999	G	C5-C6-N1	5.29	114.15	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1432	C	C2-N1-C1'	5.29	124.62	118.80
48	5	1476	G	N7-C8-N9	-5.29	110.45	113.10
48	5	1483	G	N1-C6-O6	-5.29	116.72	119.90
48	5	2942	C	N1-C2-O2	-5.29	115.72	118.90
49	7	41	G	C4-C5-N7	5.29	112.92	110.80
48	5	1137	C	N3-C4-C5	-5.29	119.78	121.90
48	5	1506	A	N9-C4-C5	5.29	107.92	105.80
48	5	1846	C	C6-N1-C2	5.29	122.42	120.30
48	5	1929	G	C2-N3-C4	-5.29	109.25	111.90
48	5	1939	G	C4-N9-C1'	5.29	133.38	126.50
48	5	3385	U	C5-C6-N1	-5.29	120.05	122.70
17	Q	178	ARG	NE-CZ-NH2	-5.29	117.66	120.30
48	5	1792	C	C5-C6-N1	-5.29	118.36	121.00
48	5	2211	U	C6-N1-C2	-5.29	117.83	121.00
25	Y	103	LYS	CD-CE-NZ	-5.29	99.54	111.70
48	5	1317	A	N9-C4-C5	-5.29	103.69	105.80
48	5	1346	G	C8-N9-C4	5.29	108.52	106.40
48	5	2524	A	C2-N3-C4	-5.29	107.96	110.60
48	5	3315	G	C4-C5-N7	-5.29	108.68	110.80
48	5	702	C	N3-C4-C5	5.29	124.01	121.90
48	5	1510	G	C2-N3-C4	-5.29	109.26	111.90
48	5	2319	U	C5-C6-N1	-5.29	120.06	122.70
50	8	87	G	C4-C5-N7	5.29	112.91	110.80
48	5	610	G	C5-C6-N1	5.28	114.14	111.50
48	5	2882	U	N3-C4-O4	-5.28	115.70	119.40
48	5	3247	G	C5-C6-O6	5.28	131.77	128.60
48	5	903	U	N3-C4-C5	5.28	117.77	114.60
48	5	960	U	C6-N1-C1'	-5.28	113.81	121.20
48	5	1153	A	C5-C6-N6	-5.28	119.48	123.70
48	5	1190	A	C4-N9-C1'	5.28	135.81	126.30
48	5	2798	C	N3-C4-C5	-5.28	119.79	121.90
48	5	3048	A	C6-N1-C2	-5.28	115.43	118.60
48	5	3309	G	C2-N3-C4	5.28	114.54	111.90
48	5	1167	U	N3-C2-O2	5.28	125.89	122.20
48	5	1442	U	C2-N3-C4	-5.28	123.83	127.00
48	5	2648	G	N9-C4-C5	-5.28	103.29	105.40
50	8	79	A	C4-C5-N7	5.28	113.34	110.70
48	5	1527	C	N1-C2-O2	5.28	122.06	118.90
50	8	113	U	C5-C4-O4	-5.28	122.73	125.90
48	5	2665	U	C5-C6-N1	5.27	125.34	122.70
48	5	2724	U	N3-C4-O4	-5.27	115.71	119.40
48	5	2755	C	C4-C5-C6	5.27	120.04	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	8	99	C	C5-C6-N1	-5.27	118.36	121.00
46	t	83	LYS	CB-CA-C	-5.27	99.85	110.40
48	5	852	U	N3-C2-O2	-5.27	118.51	122.20
48	5	1208	U	N1-C2-O2	5.27	126.49	122.80
48	5	1828	A	C8-N9-C4	-5.27	103.69	105.80
48	5	2139	A	N1-C6-N6	-5.27	115.44	118.60
48	5	2391	G	C5-C6-O6	5.27	131.76	128.60
48	5	3294	A	N1-C2-N3	5.27	131.94	129.30
18	R	42	ARG	NE-CZ-NH2	-5.27	117.67	120.30
48	5	28	C	C6-N1-C2	5.27	122.41	120.30
48	5	2899	C	C2-N3-C4	-5.27	117.27	119.90
48	5	3171	U	C6-N1-C2	5.27	124.16	121.00
48	5	496	C	N1-C2-O2	5.27	122.06	118.90
48	5	689	U	N3-C4-C5	5.27	117.76	114.60
48	5	806	A	C8-N9-C4	5.27	107.91	105.80
48	5	1140	G	N3-C4-N9	5.27	129.16	126.00
48	5	1375	G	C8-N9-C4	-5.27	104.29	106.40
48	5	2148	U	N1-C2-N3	5.27	118.06	114.90
48	5	2987	A	N7-C8-N9	-5.27	111.17	113.80
48	5	868	C	C6-N1-C2	5.27	122.41	120.30
48	5	1724	U	P-O3'-C3'	5.27	126.02	119.70
49	7	35	C	N1-C2-O2	-5.27	115.74	118.90
48	5	2164	A	C4-C5-C6	5.26	119.63	117.00
48	5	2921	U	N1-C2-N3	5.26	118.06	114.90
48	5	2979	U	N1-C2-N3	-5.26	111.74	114.90
50	8	121	U	N3-C2-O2	-5.26	118.51	122.20
48	5	1421	G	N3-C4-C5	5.26	131.23	128.60
48	5	186	U	N1-C2-O2	5.26	126.48	122.80
48	5	1500	G	N7-C8-N9	-5.26	110.47	113.10
48	5	2406	C	C4-C5-C6	5.26	120.03	117.40
48	5	3373	U	C2-N3-C4	-5.26	123.84	127.00
48	5	147	U	C5-C4-O4	5.26	129.06	125.90
48	5	2207	A	C4-C5-N7	5.26	113.33	110.70
48	5	682	U	C2-N3-C4	-5.26	123.84	127.00
48	5	2271	A	C6-C5-N7	5.26	135.98	132.30
3	C	190	GLY	N-CA-C	5.26	126.24	113.10
48	5	924	G	C5-C6-O6	-5.26	125.45	128.60
48	5	2359	C	N3-C4-N4	-5.26	114.32	118.00
48	5	404	G	C4-C5-N7	-5.25	108.70	110.80
15	O	182[B]	SER	CA-C-N	5.25	128.76	117.20
48	5	197	G	C4-N9-C1'	5.25	133.33	126.50
48	5	424	G	C5-C6-N1	5.25	114.13	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	494	G	N1-C6-O6	-5.25	116.75	119.90
48	5	997	A	C8-N9-C4	-5.25	103.70	105.80
48	5	1901	A	C8-N9-C1'	-5.25	118.24	127.70
48	5	1150	A	C5-N7-C8	-5.25	101.27	103.90
48	5	2279	A	N1-C6-N6	5.25	121.75	118.60
48	5	340	C	C4-C5-C6	5.25	120.03	117.40
48	5	1054	A	N9-C4-C5	-5.25	103.70	105.80
48	5	1856	C	N3-C2-O2	-5.25	118.22	121.90
9	I	99	ILE	CB-CA-C	-5.25	101.10	111.60
48	5	413	U	C5-C4-O4	-5.25	122.75	125.90
48	5	1050	U	C5-C4-O4	5.25	129.05	125.90
48	5	1085	A	C4-C5-N7	5.25	113.32	110.70
48	5	2213	A	N7-C8-N9	-5.25	111.18	113.80
48	5	2506	U	C5-C6-N1	5.25	125.32	122.70
48	5	102	C	C4-C5-C6	5.25	120.02	117.40
48	5	2279	A	C5-N7-C8	-5.25	101.28	103.90
48	5	2820	A	N9-C4-C5	5.25	107.90	105.80
48	5	2928	C	C2-N1-C1'	5.25	124.57	118.80
48	5	307	A	N9-C4-C5	5.25	107.90	105.80
48	5	2956	A	C5-C6-N1	-5.25	115.08	117.70
48	5	227	G	N1-C6-O6	5.24	123.05	119.90
48	5	509	U	N3-C4-C5	5.24	117.75	114.60
48	5	515	C	C5-C4-N4	-5.24	116.53	120.20
48	5	2118	C	C5-C4-N4	5.24	123.87	120.20
48	5	2213	A	C5-N7-C8	5.24	106.52	103.90
48	5	2525	G	C8-N9-C4	5.24	108.50	106.40
46	t	521	GLU	N-CA-CB	5.24	120.03	110.60
48	5	1832	C	C5-C6-N1	-5.24	118.38	121.00
48	5	2716	U	N1-C2-N3	5.24	118.05	114.90
48	5	2855	U	N3-C4-C5	5.24	117.75	114.60
48	5	2884	C	C5-C4-N4	-5.24	116.53	120.20
48	5	1183	C	N3-C4-N4	-5.24	114.33	118.00
48	5	2403	G	N3-C4-N9	5.24	129.14	126.00
48	5	3052	G	C5-N7-C8	5.24	106.92	104.30
48	5	420	G	C6-C5-N7	-5.24	127.26	130.40
48	5	1378	U	N3-C4-C5	5.24	117.74	114.60
48	5	2934	A	N1-C6-N6	-5.24	115.46	118.60
48	5	3177	G	C2-N3-C4	-5.24	109.28	111.90
48	5	1722	U	N1-C2-O2	-5.24	119.13	122.80
48	5	2416	U	N1-C2-N3	5.24	118.04	114.90
49	7	11	A	C5-C6-N1	-5.24	115.08	117.70
48	5	693	A	C5-C6-N6	5.23	127.89	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	813	G	N3-C4-C5	-5.23	125.98	128.60
48	5	1693	C	N1-C2-O2	-5.23	115.76	118.90
49	7	50	U	C6-N1-C2	-5.23	117.86	121.00
48	5	1205	A	C2-N3-C4	5.23	113.22	110.60
27	a	15	VAL	N-CA-C	-5.23	96.88	111.00
48	5	2191	U	C4-C5-C6	5.23	122.84	119.70
48	5	2692	A	C4-C5-N7	-5.23	108.08	110.70
48	5	3098	G	N3-C2-N2	5.23	123.56	119.90
48	5	216	G	N9-C4-C5	-5.23	103.31	105.40
48	5	2344	U	N1-C2-N3	5.23	118.04	114.90
48	5	2604	U	N3-C4-C5	-5.23	111.46	114.60
48	5	857	G	N1-C2-N2	-5.23	111.50	116.20
48	5	1315	U	C6-N1-C2	5.23	124.14	121.00
48	5	3381	U	C5-C6-N1	-5.23	120.09	122.70
49	7	100	C	C2-N3-C4	-5.23	117.29	119.90
48	5	806	A	C6-N1-C2	5.23	121.74	118.60
48	5	943	U	C5-C4-O4	-5.23	122.76	125.90
48	5	1120	A	N1-C6-N6	-5.23	115.47	118.60
48	5	83	U	C6-N1-C1'	-5.22	113.89	121.20
48	5	234	G	C5-C6-O6	-5.22	125.47	128.60
48	5	410	U	C5-C6-N1	-5.22	120.09	122.70
48	5	1658	G	C5-C6-O6	5.22	131.74	128.60
48	5	3103	A	C6-N1-C2	-5.22	115.47	118.60
48	5	282	G	C5-C6-N1	-5.22	108.89	111.50
48	5	559	A	C8-N9-C4	-5.22	103.71	105.80
48	5	1149	G	C4-C5-N7	-5.22	108.71	110.80
48	5	1902	G	N9-C4-C5	-5.22	103.31	105.40
48	5	3174	A	N1-C6-N6	5.22	121.73	118.60
50	8	109	A	C5-N7-C8	-5.22	101.29	103.90
48	5	1404	G	N1-C2-N2	-5.22	111.50	116.20
48	5	2349	U	N1-C2-O2	5.22	126.45	122.80
48	5	46	U	N1-C2-N3	-5.22	111.77	114.90
48	5	146	U	C5-C6-N1	-5.22	120.09	122.70
48	5	341	G	C4-C5-N7	5.22	112.89	110.80
48	5	568	G	N1-C6-O6	-5.22	116.77	119.90
48	5	2370	G	N3-C4-N9	5.22	129.13	126.00
48	5	1466	G	N1-C6-O6	-5.22	116.77	119.90
48	5	2732	G	C5-N7-C8	5.22	106.91	104.30
48	5	3046	A	N1-C6-N6	-5.22	115.47	118.60
48	5	2228	A	N7-C8-N9	5.21	116.41	113.80
49	7	48	U	N3-C2-O2	5.21	125.85	122.20
48	5	804	C	C2-N1-C1'	-5.21	113.06	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2852	C	N1-C2-O2	-5.21	115.77	118.90
48	5	267	G	N7-C8-N9	-5.21	110.49	113.10
48	5	635	G	N3-C4-C5	5.21	131.21	128.60
48	5	719	U	N3-C2-O2	-5.21	118.55	122.20
48	5	1087	G	N1-C6-O6	5.21	123.03	119.90
48	5	1402	C	N1-C2-O2	5.21	122.03	118.90
48	5	2695	A	C5-N7-C8	-5.21	101.29	103.90
48	5	3005	A	C8-N9-C4	-5.21	103.72	105.80
50	8	34	U	C2-N3-C4	-5.21	123.87	127.00
48	5	2942	C	C5-C4-N4	-5.21	116.55	120.20
48	5	80	G	C5-C6-O6	5.21	131.73	128.60
48	5	576	C	C2-N3-C4	-5.21	117.30	119.90
48	5	625	G	N3-C4-N9	-5.21	122.88	126.00
48	5	2629	U	C2-N3-C4	-5.21	123.88	127.00
48	5	2639	G	C4-C5-C6	5.21	121.92	118.80
48	5	3154	C	C6-N1-C2	-5.21	118.22	120.30
48	5	996	A	N7-C8-N9	-5.21	111.20	113.80
48	5	1013	G	C4-N9-C1'	5.21	133.27	126.50
48	5	1403	C	N3-C4-C5	5.21	123.98	121.90
48	5	1655	G	C5-N7-C8	-5.21	101.70	104.30
48	5	1695	U	N3-C2-O2	-5.21	118.56	122.20
48	5	1828	A	N7-C8-N9	5.21	116.40	113.80
48	5	2167	A	C5-C6-N1	5.21	120.30	117.70
48	5	2686	A	N1-C6-N6	5.21	121.72	118.60
48	5	2724	U	N3-C2-O2	-5.21	118.56	122.20
49	7	37	G	C8-N9-C4	5.21	108.48	106.40
50	8	126	A	N7-C8-N9	5.21	116.40	113.80
15	O	27[B]	VAL	CA-C-N	5.21	128.65	117.20
48	5	1545	A	C8-N9-C4	5.21	107.88	105.80
48	5	3321	C	C6-N1-C2	5.21	122.38	120.30
49	7	51	A	C2-N3-C4	5.21	113.20	110.60
48	5	218	G	N1-C6-O6	-5.20	116.78	119.90
48	5	726	G	N7-C8-N9	5.20	115.70	113.10
48	5	808	A	C6-N1-C2	5.20	121.72	118.60
48	5	894	G	C4-C5-N7	5.20	112.88	110.80
48	5	1100	U	N3-C4-C5	5.20	117.72	114.60
48	5	3124	G	C4-C5-N7	-5.20	108.72	110.80
50	8	109	A	C5-C6-N1	5.20	120.30	117.70
48	5	2772	C	P-O3'-C3'	5.20	125.94	119.70
46	t	58	GLN	CB-CA-C	-5.20	100.00	110.40
48	5	437	G	C5-C6-O6	-5.20	125.48	128.60
48	5	972	A	C5-N7-C8	5.20	106.50	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1116	G	C5-C6-N1	-5.20	108.90	111.50
48	5	1872	C	N1-C2-N3	5.20	122.84	119.20
48	5	2163	C	N3-C4-C5	5.20	123.98	121.90
48	5	2375	G	C5-N7-C8	-5.20	101.70	104.30
48	5	2584	G	N7-C8-N9	5.20	115.70	113.10
48	5	3302	U	C5-C6-N1	-5.20	120.10	122.70
50	8	147	U	C2-N3-C4	-5.20	123.88	127.00
48	5	376	G	N3-C4-C5	-5.20	126.00	128.60
48	5	861	C	N3-C4-N4	5.20	121.64	118.00
48	5	1310	G	C5-C6-N1	5.20	114.10	111.50
48	5	1704	A	C8-N9-C4	5.20	107.88	105.80
48	5	1942	U	C4-C5-C6	5.20	122.82	119.70
48	5	2364	G	C4-C5-N7	-5.20	108.72	110.80
48	5	3094	A	C5-N7-C8	5.20	106.50	103.90
48	5	3335	A	C5-N7-C8	-5.20	101.30	103.90
48	5	928	C	C2-N3-C4	-5.20	117.30	119.90
48	5	968	G	C6-N1-C2	5.20	128.22	125.10
48	5	2246	G	C6-C5-N7	5.20	133.52	130.40
48	5	2721	A	C5-C6-N1	5.20	120.30	117.70
48	5	333	G	C2-N3-C4	-5.19	109.30	111.90
48	5	3075	G	C5-N7-C8	5.19	106.90	104.30
48	5	3339	A	N1-C6-N6	5.19	121.72	118.60
50	8	95	G	N3-C4-N9	-5.19	122.88	126.00
15	O	16[B]	LEU	O-C-N	-5.19	114.37	123.20
31	e	33	ARG	NE-CZ-NH2	-5.19	117.70	120.30
3	C	98	ARG	NE-CZ-NH2	-5.19	117.70	120.30
48	5	1833	G	C5-C6-O6	5.19	131.72	128.60
48	5	75	G	C5-C6-N1	5.19	114.09	111.50
48	5	418	A	C4-C5-C6	5.19	119.59	117.00
48	5	580	C	N1-C2-N3	5.19	122.83	119.20
48	5	809	G	C8-N9-C4	5.19	108.47	106.40
48	5	2930	A	N1-C2-N3	-5.19	126.71	129.30
48	5	3106	A	C8-N9-C4	-5.19	103.72	105.80
49	7	1	G	C4-C5-N7	5.19	112.88	110.80
49	7	89	G	C5-C6-N1	5.19	114.09	111.50
50	8	12	A	C8-N9-C4	-5.19	103.72	105.80
50	8	77	A	C2-N3-C4	-5.19	108.01	110.60
48	5	802	C	N3-C2-O2	-5.18	118.27	121.90
48	5	1205	A	C5-N7-C8	-5.18	101.31	103.90
48	5	2142	A	C5-C6-N6	-5.18	119.55	123.70
48	5	2851	A	C2-N3-C4	-5.18	108.01	110.60
48	5	3387	U	N3-C2-O2	-5.18	118.57	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3028	G	N1-C2-N2	-5.18	111.54	116.20
48	5	3107	U	N3-C4-O4	-5.18	115.77	119.40
49	7	13	A	C8-N9-C4	-5.18	103.73	105.80
49	7	40	C	C2-N3-C4	-5.18	117.31	119.90
50	8	14	C	N1-C2-O2	-5.18	115.79	118.90
48	5	817	A	N9-C4-C5	5.18	107.87	105.80
48	5	2737	C	N1-C2-O2	-5.18	115.79	118.90
48	5	1324	U	N3-C2-O2	-5.18	118.58	122.20
48	5	2135	U	N3-C4-C5	5.18	117.71	114.60
48	5	2272	G	O4'-C1'-N9	5.18	112.34	108.20
49	7	88	G	N9-C4-C5	5.18	107.47	105.40
3	C	230	VAL	CB-CA-C	-5.18	101.56	111.40
27	a	14	HIS	N-CA-C	-5.18	97.02	111.00
48	5	284	A	N1-C6-N6	-5.18	115.49	118.60
48	5	329	U	C6-N1-C2	5.18	124.11	121.00
48	5	1242	G	C8-N9-C1'	-5.18	120.27	127.00
48	5	1851	G	C4-N9-C1'	5.18	133.23	126.50
48	5	2560	C	N1-C2-O2	5.18	122.01	118.90
48	5	2858	U	C2-N1-C1'	5.18	123.91	117.70
48	5	3186	A	N7-C8-N9	5.18	116.39	113.80
15	O	104[B]	ILE	CA-C-N	-5.17	105.82	117.20
48	5	1485	G	N9-C4-C5	5.17	107.47	105.40
48	5	2352	A	C5-N7-C8	5.17	106.49	103.90
48	5	2960	C	C2-N3-C4	-5.17	117.31	119.90
50	8	51	G	N3-C2-N2	-5.17	116.28	119.90
48	5	114	A	C5-C6-N1	-5.17	115.11	117.70
48	5	1805	C	C6-N1-C2	5.17	122.37	120.30
48	5	2245	C	N1-C2-N3	5.17	122.82	119.20
48	5	3019	U	C5-C6-N1	-5.17	120.11	122.70
50	8	23	U	N3-C2-O2	-5.17	118.58	122.20
43	q	70	LEU	CA-CB-CG	5.17	127.19	115.30
48	5	2526	C	C6-N1-C1'	-5.17	114.59	120.80
48	5	318	A	N1-C2-N3	-5.17	126.72	129.30
48	5	934	G	C8-N9-C1'	-5.17	120.28	127.00
48	5	1714	A	C2-N3-C4	-5.17	108.02	110.60
48	5	432	G	N3-C2-N2	5.17	123.52	119.90
48	5	943	U	C2-N3-C4	-5.17	123.90	127.00
48	5	973	A	C6-N1-C2	-5.17	115.50	118.60
48	5	1305	U	C5-C6-N1	-5.17	120.12	122.70
49	7	57	G	C5-C6-O6	5.17	131.70	128.60
48	5	872	U	N3-C4-O4	-5.17	115.78	119.40
48	5	1241	U	C5-C6-N1	5.17	125.28	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1325	U	N1-C2-N3	5.17	118.00	114.90
48	5	1604	G	N3-C4-C5	-5.17	126.02	128.60
19	S	167	ARG	NE-CZ-NH1	5.16	122.88	120.30
48	5	1100	U	C6-N1-C2	5.16	124.10	121.00
48	5	1312	C	C6-N1-C1'	5.16	127.00	120.80
48	5	1445	U	N3-C2-O2	5.16	125.81	122.20
48	5	2378	C	C2-N3-C4	5.16	122.48	119.90
48	5	1834	U	C5-C6-N1	-5.16	120.12	122.70
48	5	340	C	N3-C2-O2	-5.16	118.29	121.90
48	5	523	A	N1-C6-N6	-5.16	115.50	118.60
48	5	911	C	C5-C4-N4	-5.16	116.59	120.20
48	5	1412	G	N3-C2-N2	-5.16	116.29	119.90
48	5	1603	A	C4-C5-C6	5.16	119.58	117.00
48	5	1938	U	N3-C4-C5	5.16	117.70	114.60
48	5	2351	U	N1-C2-O2	5.16	126.41	122.80
48	5	2877	G	C5-C6-O6	5.16	131.70	128.60
48	5	2941	A	C8-N9-C4	5.16	107.86	105.80
49	7	75	G	N3-C2-N2	-5.16	116.29	119.90
50	8	32	C	N3-C2-O2	5.16	125.51	121.90
48	5	341	G	N3-C2-N2	-5.16	116.29	119.90
48	5	919	U	C5-C4-O4	-5.16	122.81	125.90
48	5	1114	U	C2-N3-C4	-5.16	123.91	127.00
48	5	1876	U	C6-N1-C2	-5.16	117.91	121.00
48	5	2635	A	C8-N9-C4	-5.16	103.74	105.80
48	5	1513	G	N1-C6-O6	-5.16	116.81	119.90
48	5	1516	C	C4-C5-C6	5.16	119.98	117.40
48	5	1901	A	N1-C6-N6	5.16	121.69	118.60
48	5	2884	C	N3-C4-N4	5.16	121.61	118.00
49	7	90	U	C2-N3-C4	-5.16	123.91	127.00
46	t	51	HIS	CB-CA-C	-5.16	100.09	110.40
48	5	39	A	N3-C4-C5	-5.16	123.19	126.80
48	5	374	A	N9-C4-C5	5.16	107.86	105.80
48	5	1603	A	C5-C6-N1	-5.16	115.12	117.70
48	5	2632	G	C6-N1-C2	5.15	128.19	125.10
48	5	3173	G	C6-N1-C2	-5.15	122.01	125.10
46	t	551	GLN	CB-CA-C	-5.15	100.09	110.40
48	5	784	A	C4-C5-N7	5.15	113.28	110.70
48	5	1114	U	C5-C4-O4	-5.15	122.81	125.90
48	5	2112	U	N1-C2-N3	5.15	117.99	114.90
48	5	2207	A	C5-C6-N1	-5.15	115.12	117.70
48	5	3132	C	C6-N1-C2	5.15	122.36	120.30
50	8	95	G	N3-C4-C5	5.15	131.18	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	P	23	ARG	NE-CZ-NH1	5.15	122.88	120.30
48	5	958	C	C6-N1-C2	5.15	122.36	120.30
48	5	2305	G	N3-C4-N9	5.15	129.09	126.00
49	7	35	C	N3-C4-C5	5.15	123.96	121.90
48	5	2833	A	C6-C5-N7	5.15	135.90	132.30
48	5	84	U	N3-C4-O4	5.15	123.00	119.40
48	5	863	C	C5-C4-N4	5.15	123.80	120.20
48	5	1733	G	C6-C5-N7	-5.15	127.31	130.40
48	5	35	A	N1-C2-N3	5.14	131.87	129.30
48	5	1147	G	C5-C6-O6	5.14	131.69	128.60
48	5	2128	C	C6-N1-C2	-5.14	118.24	120.30
48	5	3074	G	N1-C2-N2	-5.14	111.57	116.20
48	5	1468	A	N7-C8-N9	5.14	116.37	113.80
48	5	1543	G	N1-C6-O6	-5.14	116.81	119.90
48	5	2422	C	N3-C4-C5	5.14	123.96	121.90
48	5	3309	G	C8-N9-C4	-5.14	104.34	106.40
48	5	367	A	C6-N1-C2	5.14	121.68	118.60
48	5	815	G	N3-C4-C5	-5.14	126.03	128.60
48	5	884	A	C8-N9-C1'	5.14	136.95	127.70
48	5	985	U	C6-N1-C2	5.14	124.08	121.00
48	5	3101	G	N3-C2-N2	5.14	123.50	119.90
48	5	367	A	C2-N3-C4	-5.14	108.03	110.60
48	5	2193	U	N1-C2-N3	5.14	117.98	114.90
48	5	2215	A	N1-C6-N6	5.14	121.68	118.60
48	5	2881	C	N1-C2-N3	5.14	122.80	119.20
48	5	3197	G	N3-C4-C5	5.14	131.17	128.60
50	8	8	C	N1-C2-N3	5.14	122.80	119.20
48	5	3202	G	C5-C6-O6	5.14	131.68	128.60
49	7	35	C	C6-N1-C2	5.14	122.36	120.30
48	5	926	A	C4-C5-C6	-5.14	114.43	117.00
48	5	1138	U	N3-C4-O4	-5.14	115.80	119.40
48	5	2293	C	N3-C2-O2	-5.14	118.30	121.90
48	5	2303	A	C5-C6-N1	5.14	120.27	117.70
48	5	2804	A	C2-N3-C4	-5.14	108.03	110.60
48	5	2945	G	C5-C6-O6	-5.14	125.52	128.60
49	7	1	G	N7-C8-N9	5.14	115.67	113.10
6	F	232	ARG	NE-CZ-NH1	-5.13	117.73	120.30
48	5	622	A	C4-C5-N7	5.13	113.27	110.70
48	5	2122	G	N7-C8-N9	-5.13	110.53	113.10
48	5	2634	U	N3-C4-O4	5.13	122.99	119.40
49	7	88	G	N1-C6-O6	-5.13	116.82	119.90
48	5	66	A	N7-C8-N9	-5.13	111.23	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	949	C	N1-C2-N3	5.13	122.79	119.20
48	5	1938	U	C6-N1-C2	5.13	124.08	121.00
48	5	95	A	C5-C6-N1	5.13	120.27	117.70
48	5	391	A	C8-N9-C4	5.13	107.85	105.80
48	5	881	C	C5-C6-N1	5.13	123.57	121.00
48	5	902	G	N7-C8-N9	-5.13	110.53	113.10
48	5	2280	A	C5-N7-C8	-5.13	101.33	103.90
48	5	2831	G	C2-N3-C4	5.13	114.47	111.90
48	5	2848	G	C4-N9-C1'	5.13	133.17	126.50
48	5	3333	G	C4-C5-N7	5.13	112.85	110.80
48	5	3100	U	N3-C2-O2	-5.13	118.61	122.20
10	J	10	ARG	NE-CZ-NH2	-5.13	117.74	120.30
48	5	1788	C	C6-N1-C2	-5.13	118.25	120.30
48	5	2386	A	C4-C5-N7	5.13	113.26	110.70
48	5	2549	G	C8-N9-C1'	-5.13	120.33	127.00
48	5	2565	U	C6-N1-C2	-5.13	117.92	121.00
46	t	384	LYS	CB-CA-C	-5.13	100.14	110.40
48	5	284	A	C8-N9-C4	-5.13	103.75	105.80
48	5	582	G	C4-C5-N7	-5.13	108.75	110.80
48	5	840	C	C4-C5-C6	5.12	119.96	117.40
48	5	2550	U	N3-C2-O2	-5.12	118.61	122.20
46	t	530	LYS	N-CA-CB	5.12	119.82	110.60
48	5	1303	A	N7-C8-N9	-5.12	111.24	113.80
48	5	2364	G	C6-N1-C2	-5.12	122.03	125.10
48	5	2366	C	C2-N3-C4	5.12	122.46	119.90
48	5	2396	G	C4-C5-N7	-5.12	108.75	110.80
49	7	77	G	C6-C5-N7	-5.12	127.33	130.40
50	8	100	U	C6-N1-C1'	-5.12	114.03	121.20
48	5	1137	C	N3-C4-N4	5.12	121.59	118.00
48	5	2145	A	N3-C4-C5	-5.12	123.22	126.80
48	5	2913	C	N3-C2-O2	-5.12	118.32	121.90
48	5	887	G	N1-C2-N2	-5.12	111.59	116.20
48	5	893	C	N3-C2-O2	5.12	125.48	121.90
48	5	2820	A	N3-C4-C5	-5.12	123.22	126.80
48	5	2988	C	C5-C4-N4	5.12	123.78	120.20
48	5	3180	A	C6-N1-C2	-5.12	115.53	118.60
50	8	47	C	N3-C2-O2	-5.12	118.32	121.90
48	5	2897	A	N7-C8-N9	-5.12	111.24	113.80
48	5	102	C	N1-C2-O2	-5.12	115.83	118.90
48	5	1303	A	C8-N9-C4	5.12	107.85	105.80
48	5	2866	U	N1-C2-N3	5.12	117.97	114.90
48	5	3137	C	N3-C4-N4	-5.12	114.42	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	3173	G	N3-C4-N9	5.12	129.07	126.00
48	5	3018	C	C6-N1-C2	-5.11	118.25	120.30
48	5	3048	A	C5-C6-N1	5.11	120.26	117.70
48	5	3255	U	N3-C4-C5	5.11	117.67	114.60
23	W	39	LEU	CA-CB-CG	5.11	127.06	115.30
48	5	1828	A	C2-N3-C4	-5.11	108.04	110.60
48	5	2716	U	C5-C4-O4	5.11	128.97	125.90
48	5	3030	G	C5-C6-N1	-5.11	108.94	111.50
1	A	242	ARG	NE-CZ-NH2	-5.11	117.75	120.30
3	C	60	THR	CB-CA-C	-5.11	97.80	111.60
14	N	172	ARG	NE-CZ-NH1	-5.11	117.74	120.30
48	5	149	U	N3-C2-O2	-5.11	118.62	122.20
48	5	860	G	N3-C4-C5	-5.11	126.05	128.60
48	5	2371	G	N1-C2-N2	-5.11	111.60	116.20
48	5	3386	G	N1-C2-N3	5.11	126.97	123.90
48	5	98	G	C5-C6-O6	-5.11	125.53	128.60
48	5	1845	G	C8-N9-C4	5.11	108.44	106.40
48	5	1932	A	N1-C2-N3	5.11	131.85	129.30
48	5	2198	A	C8-N9-C4	5.11	107.84	105.80
48	5	2278	C	P-O3'-C3'	5.11	125.83	119.70
48	5	583	G	C8-N9-C4	5.11	108.44	106.40
48	5	943	U	C6-N1-C2	5.11	124.06	121.00
48	5	1906	G	C5-C6-O6	-5.11	125.53	128.60
48	5	1938	U	C2-N3-C4	-5.11	123.94	127.00
48	5	3010	U	N1-C2-O2	5.11	126.38	122.80
48	5	1637	A	N1-C6-N6	-5.11	115.54	118.60
48	5	2623	G	N3-C4-N9	5.11	129.06	126.00
48	5	3378	C	N3-C4-N4	-5.11	114.43	118.00
49	7	116	C	C6-N1-C2	5.11	122.34	120.30
48	5	1077	U	N1-C2-O2	-5.10	119.23	122.80
48	5	2691	A	N1-C2-N3	5.10	131.85	129.30
48	5	672	A	C5-C6-N6	-5.10	119.62	123.70
48	5	1633	C	N3-C4-C5	-5.10	119.86	121.90
48	5	2235	C	C6-N1-C2	5.10	122.34	120.30
48	5	2633	U	C2-N3-C4	-5.10	123.94	127.00
48	5	880	G	C6-N1-C2	-5.10	122.04	125.10
48	5	1313	G	C8-N9-C4	-5.10	104.36	106.40
48	5	2309	A	N1-C6-N6	5.10	121.66	118.60
49	7	120	C	C5-C6-N1	-5.10	118.45	121.00
48	5	912	G	N9-C4-C5	-5.10	103.36	105.40
48	5	2271	A	C5-C6-N6	5.10	127.78	123.70
48	5	2344	U	N1-C2-O2	-5.10	119.23	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2614	G	C2-N3-C4	-5.10	109.35	111.90
48	5	2706	G	N1-C6-O6	-5.10	116.84	119.90
49	7	79	A	C8-N9-C4	-5.10	103.76	105.80
48	5	2600	C	C2-N1-C1'	5.10	124.41	118.80
48	5	2745	G	C5-C6-N1	5.10	114.05	111.50
48	5	1316	C	C5-C6-N1	5.09	123.55	121.00
48	5	1607	U	N3-C4-O4	-5.09	115.83	119.40
48	5	2317	A	C5-N7-C8	-5.09	101.35	103.90
48	5	3127	A	C5-C6-N6	5.09	127.78	123.70
48	5	1192	C	N3-C2-O2	-5.09	118.33	121.90
48	5	1822	C	C6-N1-C2	5.09	122.34	120.30
48	5	3215	A	N9-C4-C5	-5.09	103.76	105.80
48	5	436	A	N1-C2-N3	5.09	131.85	129.30
48	5	2167	A	N3-C4-C5	-5.09	123.24	126.80
48	5	2340	U	N3-C2-O2	-5.09	118.64	122.20
50	8	24	G	C5-C6-O6	5.09	131.66	128.60
48	5	959	C	N3-C4-C5	5.09	123.94	121.90
48	5	1451	C	C6-N1-C2	5.09	122.34	120.30
48	5	2857	C	C2-N3-C4	-5.09	117.36	119.90
49	7	83	U	C6-N1-C1'	5.09	128.32	121.20
48	5	1851	G	C8-N9-C1'	-5.09	120.39	127.00
48	5	982	C	C4-C5-C6	-5.09	114.86	117.40
48	5	1456	A	C2-N3-C4	-5.09	108.06	110.60
48	5	3191	G	N7-C8-N9	-5.09	110.56	113.10
48	5	3212	C	N1-C2-N3	5.09	122.76	119.20
49	7	41	G	C5-C6-N1	5.09	114.04	111.50
48	5	421	G	C5-C6-N1	5.08	114.04	111.50
48	5	2263	C	N3-C2-O2	-5.08	118.34	121.90
48	5	3107	U	N1-C2-O2	5.08	126.36	122.80
48	5	965	A	C5-C6-N1	5.08	120.24	117.70
48	5	2674	A	N7-C8-N9	-5.08	111.26	113.80
48	5	3066	U	N1-C2-O2	5.08	126.36	122.80
48	5	3318	G	C5-C6-O6	5.08	131.65	128.60
48	5	2883	U	N1-C2-N3	5.08	117.95	114.90
48	5	3056	U	N1-C2-O2	-5.08	119.24	122.80
48	5	3195	U	N1-C2-O2	5.08	126.36	122.80
48	5	3211	C	C6-N1-C2	5.08	122.33	120.30
48	5	1004	U	N1-C2-N3	-5.08	111.85	114.90
48	5	813	G	C4-N9-C1'	5.08	133.10	126.50
48	5	1144	U	N3-C2-O2	-5.08	118.64	122.20
48	5	1301	A	C6-C5-N7	-5.08	128.75	132.30
48	5	1445	U	C6-N1-C2	5.08	124.05	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1481	A	C4-C5-C6	5.08	119.54	117.00
48	5	2122	G	N1-C6-O6	-5.08	116.85	119.90
48	5	2731	U	N1-C2-N3	5.08	117.95	114.90
48	5	2202	C	C6-N1-C2	5.08	122.33	120.30
48	5	3241	G	N1-C6-O6	5.08	122.95	119.90
46	t	216	SER	N-CA-CB	-5.08	102.89	110.50
48	5	880	G	C8-N9-C4	5.08	108.43	106.40
48	5	940	G	C5-C6-N1	5.08	114.04	111.50
48	5	2136	C	C2-N3-C4	-5.08	117.36	119.90
48	5	2531	C	N3-C2-O2	-5.08	118.35	121.90
48	5	2593	A	P-O3'-C3'	5.08	125.79	119.70
48	5	3130	A	C4-C5-C6	5.08	119.54	117.00
48	5	3273	A	C5-N7-C8	-5.08	101.36	103.90
48	5	874	U	C2-N1-C1'	-5.07	111.61	117.70
48	5	1049	C	C6-N1-C2	-5.07	118.27	120.30
48	5	2857	C	C5-C6-N1	-5.07	118.46	121.00
48	5	3218	A	N3-C4-N9	-5.07	123.34	127.40
6	F	177	GLY	N-CA-C	-5.07	100.42	113.10
48	5	2974	U	C5-C6-N1	-5.07	120.16	122.70
48	5	1458	U	C5-C4-O4	-5.07	122.86	125.90
48	5	2280	A	N3-C4-C5	5.07	130.35	126.80
48	5	2371	G	N7-C8-N9	-5.07	110.56	113.10
48	5	1813	A	C8-N9-C4	-5.07	103.77	105.80
48	5	2392	C	C2-N1-C1'	-5.07	113.23	118.80
48	5	2407	C	N3-C2-O2	5.07	125.45	121.90
48	5	183	G	C3'-C2'-C1'	-5.07	97.45	101.50
48	5	1660	C	N1-C2-N3	5.07	122.75	119.20
48	5	2386	A	N1-C6-N6	5.07	121.64	118.60
48	5	2541	U	N1-C2-O2	5.07	126.35	122.80
48	5	2693	C	N3-C4-N4	-5.07	114.45	118.00
48	5	2696	A	C5-C6-N6	5.07	127.75	123.70
48	5	2847	A	C5-C6-N6	5.07	127.75	123.70
48	5	3246	G	C5-C6-O6	-5.07	125.56	128.60
48	5	2284	C	C2-N1-C1'	5.06	124.37	118.80
48	5	1473	G	C8-N9-C4	5.06	108.42	106.40
48	5	2731	U	C5-C6-N1	-5.06	120.17	122.70
49	7	20	A	N1-C6-N6	5.06	121.64	118.60
48	5	434	U	N1-C2-O2	5.06	126.34	122.80
48	5	2848	G	C8-N9-C4	-5.06	104.38	106.40
48	5	323	A	N1-C2-N3	5.06	131.83	129.30
48	5	356	C	C6-N1-C2	5.06	122.32	120.30
48	5	951	A	N1-C2-N3	-5.06	126.77	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	1377	G	C8-N9-C4	-5.06	104.38	106.40
48	5	2758	A	N1-C6-N6	-5.06	115.56	118.60
48	5	3259	U	N1-C2-N3	5.06	117.94	114.90
48	5	3266	G	N3-C4-N9	-5.06	122.97	126.00
48	5	1040	A	C2-N3-C4	-5.06	108.07	110.60
48	5	2647	A	N1-C2-N3	5.06	131.83	129.30
49	7	26	C	N1-C2-N3	5.06	122.74	119.20
50	8	17	A	C6-C5-N7	-5.06	128.76	132.30
48	5	1193	A	C8-N9-C4	-5.06	103.78	105.80
48	5	2620	G	C4-C5-C6	-5.06	115.77	118.80
48	5	524	U	C2-N3-C4	-5.05	123.97	127.00
48	5	802	C	N1-C2-N3	5.05	122.74	119.20
48	5	1872	C	C2-N3-C4	-5.05	117.37	119.90
48	5	2290	C	N1-C2-O2	-5.05	115.87	118.90
48	5	2353	G	N3-C4-C5	-5.05	126.07	128.60
48	5	2369	G	N3-C4-N9	5.05	129.03	126.00
48	5	2393	G	N7-C8-N9	-5.05	110.57	113.10
48	5	2754	G	N3-C4-C5	-5.05	126.07	128.60
48	5	3217	C	C2-N1-C1'	-5.05	113.24	118.80
48	5	110	G	C5-C6-N1	5.05	114.03	111.50
48	5	2283	G	C8-N9-C4	5.05	108.42	106.40
48	5	2748	A	C5-C6-N1	5.05	120.22	117.70
48	5	3049	A	N1-C6-N6	5.05	121.63	118.60
50	8	138	A	C4-C5-C6	5.05	119.53	117.00
48	5	1314	C	C4-C5-C6	5.05	119.92	117.40
48	5	2169	G	N9-C4-C5	5.05	107.42	105.40
48	5	2343	C	N1-C2-O2	-5.05	115.87	118.90
48	5	2830	G	C8-N9-C4	-5.05	104.38	106.40
48	5	2958	A	C4-N9-C1'	-5.05	117.21	126.30
48	5	2805	G	C5-C6-N1	5.05	114.02	111.50
48	5	2430	A	C4-C5-C6	5.05	119.52	117.00
48	5	2742	C	C2-N3-C4	-5.05	117.38	119.90
48	5	2810	C	C2-N3-C4	-5.05	117.38	119.90
48	5	2931	C	N1-C2-O2	-5.05	115.87	118.90
48	5	1182	A	C5-C6-N1	5.04	120.22	117.70
48	5	3294	A	C5-C6-N6	5.04	127.74	123.70
48	5	917	A	C4-C5-C6	5.04	119.52	117.00
48	5	2280	A	C8-N9-C4	5.04	107.82	105.80
48	5	3039	C	C5-C6-N1	5.04	123.52	121.00
48	5	3377	G	C6-C5-N7	-5.04	127.37	130.40
48	5	979	U	C5-C6-N1	5.04	125.22	122.70
48	5	1338	C	N1-C2-O2	-5.04	115.88	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	2906	C	C6-N1-C2	-5.04	118.28	120.30
17	Q	3	ILE	CB-CA-C	-5.04	101.52	111.60
48	5	141	C	C5-C6-N1	5.04	123.52	121.00
48	5	392	G	N1-C6-O6	5.04	122.92	119.90
48	5	1013	G	N3-C4-C5	-5.04	126.08	128.60
48	5	2832	C	N3-C4-C5	5.04	123.92	121.90
48	5	3189	G	C8-N9-C4	5.04	108.42	106.40
48	5	3310	A	C5-N7-C8	5.04	106.42	103.90
48	5	667	C	C5-C6-N1	-5.04	118.48	121.00
48	5	587	U	C6-N1-C2	5.04	124.02	121.00
48	5	2124	G	N7-C8-N9	-5.04	110.58	113.10
48	5	2326	A	C5-C6-N1	5.04	120.22	117.70
48	5	2919	A	C5-C6-N6	5.04	127.73	123.70
48	5	282	G	P-O3'-C3'	5.03	125.74	119.70
48	5	956	U	C5-C6-N1	-5.03	120.18	122.70
48	5	2774	C	N3-C4-N4	5.03	121.52	118.00
48	5	2808	A	C4-C5-N7	5.03	113.22	110.70
50	8	99	C	C2-N3-C4	-5.03	117.38	119.90
48	5	41	G	N1-C2-N2	5.03	120.73	116.20
48	5	1178	G	N3-C2-N2	-5.03	116.38	119.90
48	5	2179	C	N3-C2-O2	5.03	125.42	121.90
48	5	2407	C	N3-C4-N4	5.03	121.52	118.00
48	5	2813	A	C5-C6-N6	5.03	127.72	123.70
50	8	76	C	C2-N1-C1'	-5.03	113.27	118.80
48	5	356	C	C2-N3-C4	-5.03	117.39	119.90
48	5	627	U	N3-C2-O2	-5.03	118.68	122.20
48	5	940	G	C2-N3-C4	5.03	114.42	111.90
48	5	979	U	N1-C2-N3	-5.03	111.88	114.90
48	5	1804	A	N1-C6-N6	5.03	121.62	118.60
48	5	1887	A	C6-C5-N7	-5.03	128.78	132.30
48	5	2639	G	N3-C4-N9	5.03	129.02	126.00
48	5	3048	A	C5-C6-N6	-5.03	119.68	123.70
48	5	3209	A	O4'-C1'-N9	5.03	112.22	108.20
48	5	3313	U	N1-C2-N3	5.03	117.92	114.90
50	8	40	A	N7-C8-N9	5.03	116.31	113.80
48	5	390	G	C8-N9-C4	5.03	108.41	106.40
48	5	1482	A	C8-N9-C4	-5.03	103.79	105.80
48	5	2235	C	N1-C2-N3	-5.03	115.68	119.20
48	5	112	U	N3-C4-O4	5.03	122.92	119.40
48	5	536	U	C5-C6-N1	-5.03	120.19	122.70
48	5	2701	U	N3-C4-O4	5.03	122.92	119.40
50	8	79	A	N1-C6-N6	5.03	121.62	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	5	613	G	C4-C5-N7	-5.03	108.79	110.80
48	5	2944	U	N1-C2-O2	5.02	126.32	122.80
22	V	87	ARG	NE-CZ-NH2	-5.02	117.79	120.30
31	e	111	ARG	NE-CZ-NH2	-5.02	117.79	120.30
36	j	5	THR	C-N-CD	5.02	138.94	128.40
48	5	530	G	N9-C4-C5	5.02	107.41	105.40
48	5	1365	G	N3-C4-N9	5.02	129.01	126.00
48	5	2361	A	C4-C5-N7	-5.02	108.19	110.70
18	R	97	ARG	NE-CZ-NH1	-5.02	117.79	120.30
48	5	1348	U	C5-C6-N1	5.02	125.21	122.70
48	5	1432	C	N3-C2-O2	-5.02	118.39	121.90
48	5	1461	A	C8-N9-C4	5.02	107.81	105.80
48	5	1524	A	C4-C5-C6	5.02	119.51	117.00
48	5	2697	A	N1-C6-N6	-5.02	115.59	118.60
48	5	270	U	N1-C2-O2	5.02	126.31	122.80
48	5	1100	U	C5-C4-O4	-5.02	122.89	125.90
48	5	1314	C	C5-C6-N1	-5.02	118.49	121.00
48	5	1838	G	C5-N7-C8	5.02	106.81	104.30
48	5	2177	G	C5-C6-N1	5.02	114.01	111.50
48	5	2271	A	C5-N7-C8	5.02	106.41	103.90
48	5	2392	C	N1-C2-N3	5.02	122.71	119.20
48	5	2753	G	C8-N9-C4	-5.02	104.39	106.40
48	5	3028	G	N9-C4-C5	-5.02	103.39	105.40
48	5	3087	A	C8-N9-C4	-5.02	103.79	105.80
48	5	2518	C	C4-C5-C6	5.02	119.91	117.40
48	5	952	A	C4-C5-N7	5.01	113.21	110.70
48	5	1870	C	C6-N1-C2	-5.01	118.29	120.30
48	5	2808	A	C8-N9-C1'	-5.01	118.67	127.70
48	5	2965	U	C5-C6-N1	-5.01	120.19	122.70
48	5	3241	G	C6-C5-N7	-5.01	127.39	130.40
50	8	25	G	N3-C2-N2	5.01	123.41	119.90
48	5	1704	A	C2-N3-C4	-5.01	108.09	110.60
49	7	41	G	C5-C6-O6	-5.01	125.59	128.60
48	5	1339	C	C2-N3-C4	-5.01	117.39	119.90
48	5	1412	G	N9-C4-C5	5.01	107.41	105.40
48	5	2353	G	C4-C5-N7	5.01	112.81	110.80
48	5	2434	U	N1-C2-N3	5.01	117.91	114.90
48	5	2935	U	N1-C2-O2	5.01	126.31	122.80
48	5	125	C	N3-C2-O2	-5.01	118.39	121.90
48	5	656	A	N7-C8-N9	-5.01	111.30	113.80
48	5	2655	U	C2-N3-C4	-5.01	124.00	127.00
48	5	3145	C	C5-C4-N4	-5.01	116.69	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	8	26	U	C4-C5-C6	5.01	122.71	119.70
50	8	31	G	C5-N7-C8	5.01	106.80	104.30
48	5	820	A	N1-C2-N3	5.01	131.80	129.30
48	5	883	A	C8-N9-C4	5.01	107.80	105.80
48	5	3191	G	C5-N7-C8	5.01	106.80	104.30
48	5	609	G	C8-N9-C4	-5.01	104.40	106.40
48	5	1484	U	N3-C4-C5	5.01	117.60	114.60
48	5	1660	C	C2-N3-C4	-5.01	117.40	119.90
48	5	2352	A	C4-C5-C6	5.01	119.50	117.00
48	5	2960	C	N3-C4-N4	-5.01	114.50	118.00
50	8	88	A	N1-C6-N6	5.01	121.60	118.60
48	5	628	A	C5-C6-N1	5.00	120.20	117.70
48	5	2386	A	N7-C8-N9	5.00	116.30	113.80
48	5	433	A	C8-N9-C4	5.00	107.80	105.80
48	5	524	U	C5-C6-N1	-5.00	120.20	122.70
48	5	927	C	C4-C5-C6	-5.00	114.90	117.40
2	B	26	ARG	NE-CZ-NH2	5.00	122.80	120.30
48	5	191	U	C2-N1-C1'	-5.00	111.70	117.70
48	5	1142	G	N3-C2-N2	5.00	123.40	119.90
48	5	2399	A	N1-C6-N6	5.00	121.60	118.60
48	5	2606	G	N1-C2-N2	-5.00	111.70	116.20
48	5	2878	G	C5-C6-N1	5.00	114.00	111.50
48	5	3351	U	N1-C2-O2	5.00	126.30	122.80

There are no chirality outliers.

All (24) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
48	5	2898	G	Sidechain
1	A	143	GLU	Peptide
1	A	211	HIS	Peptide
3	C	91	GLY	Peptide
4	D	271	LYS	Peptide
5	E	129	GLU	Peptide
6	F	192	GLY	Peptide
6	F	226	GLY	Peptide
15	O	110[A]	PRO	Peptide
15	O	68[B]	ARG	Peptide
19	S	133	ALA	Peptide
22	V	41	GLY	Peptide
25	Y	111	LEU	Peptide
26	Z	101	PHE	Peptide

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Mol	Chain	Res	Type	Group
27	a	26	ARG	Peptide
27	a	66	ALA	Peptide
27	a	75	LEU	Peptide
28	b	19	ASN	Peptide
46	t	15	LYS	Mainchain
46	t	160	ILE	Mainchain
46	t	383	ASP	Mainchain
46	t	48	ASP	Mainchain
46	t	544	ASN	Mainchain
46	t	81	LYS	Mainchain

## 5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1912	0	1976	86	0
2	B	3075	0	3142	116	0
3	C	2748	0	2859	99	0
4	D	2359	0	2311	85	0
5	E	1248	0	1339	33	0
6	F	1791	0	1869	47	0
7	G	1763	0	1819	72	0
8	H	1518	0	1587	66	0
9	I	1722	0	1755	54	0
10	J	1353	0	1383	56	0
11	K	750	0	185	11	0
12	L	1548	0	1613	45	0
13	M	1059	0	1154	40	0
14	N	1720	0	1779	63	0
15	O	3119	0	3302	94	0
16	P	1227	0	1236	32	0
17	Q	1441	0	1543	39	0
18	R	1521	0	1617	38	0
19	S	1445	0	1487	49	0
20	T	1276	0	1323	51	0
21	U	778	0	791	25	0
22	V	1003	0	1048	25	0
23	W	1038	0	1071	21	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	X	959	0	1020	27	0
25	Y	993	0	1081	28	0
26	Z	1092	0	1155	53	0
27	a	1173	0	1215	0	0
28	b	462	0	491	0	0
29	c	767	0	816	0	0
30	d	883	0	918	0	0
31	e	1020	0	1090	0	0
32	f	850	0	880	0	0
33	g	880	0	945	0	0
34	h	965	0	1067	0	0
35	i	770	0	846	0	0
36	j	681	0	683	0	0
37	k	608	0	671	0	0
38	l	436	0	475	0	0
39	m	417	0	455	0	0
40	n	233	0	284	0	0
41	o	847	0	915	0	0
42	p	694	0	734	0	0
43	q	1077	0	1012	0	0
44	r	235	0	50	0	0
45	s	230	0	49	0	0
46	t	2938	0	2993	0	0
47	1	114	0	0	2	0
48	5	67376	0	33833	1087	0
49	7	2579	0	1303	38	0
50	8	3353	0	1695	42	0
51	j	1	0	0	0	0
51	m	1	0	0	0	0
51	o	1	0	0	0	0
51	p	1	0	0	0	0
All	All	130050	0	94865	2205	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 15.

All (2205) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:171:LYS:CE	17:Q:171:LYS:NZ	1.67	1.55
20:T:82:ASN:HD21	47:1:2029:A:P	157.50	1.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:8:PRO:CG	10:J:8:PRO:CB	1.75	1.49
20:T:82:ASN:ND2	47:1:2029:A:P	157.87	1.25
2:B:296:THR:HG22	2:B:298:PHE:H	1.18	1.06
13:M:19:ARG:HA	13:M:69:THR:HG22	1.41	1.02
2:B:41:VAL:HA	2:B:185:GLY:HA3	1.39	1.00
8:H:166:ARG:HH11	8:H:168:ARG:HH22	1.08	0.99
20:T:135:PRO:N	20:T:135:PRO:CD	1.46	0.97
48:5:437:G:H22	48:5:622:A:H61	1.01	0.97
14:N:188:ARG:NH2	48:5:31:C:OP2	1.99	0.95
13:M:128:ARG:NH2	48:5:3214:U:OP2	2.03	0.92
48:5:1877:U:H5''	48:5:1878:G:H5'	1.50	0.92
13:M:55:ARG:NH2	13:M:76:ALA:O	2.03	0.92
14:N:31:ARG:NH1	14:N:124:ASP:OD2	2.03	0.91
48:5:3343:G:H21	48:5:3362:A:H2	1.17	0.91
48:5:2836:C:H5	48:5:2852:C:H42	1.07	0.91
14:N:8:GLU:HG3	14:N:50:ARG:HH12	1.35	0.90
48:5:1235:U:H4'	48:5:1236:G:H5'	1.53	0.90
10:J:94:ARG:O	10:J:96:PHE:N	2.05	0.89
14:N:146:ALA:O	14:N:148:TYR:N	2.05	0.89
1:A:213:GLY:HA3	48:5:2967:A:H5''	1.52	0.89
48:5:2818:U:H6	48:5:2818:U:H5'	1.37	0.87
1:A:21:ARG:NH2	48:5:640:U:OP1	80.69	0.87
48:5:1759:C:N4	48:5:1766:G:O6	2.06	0.87
1:A:70:ARG:NH2	48:5:2522:G:O6	2.08	0.87
48:5:2512:C:H5'	48:5:2512:C:H6	1.38	0.86
20:T:135:PRO:O	20:T:136:ARG:HB2	1.73	0.86
48:5:726:G:H5'	48:5:726:G:H8	1.41	0.85
48:5:1555:U:O4	48:5:1557:A:N6	2.08	0.85
48:5:3278:C:O2'	48:5:3279:A:OP2	1.95	0.85
15:O:160[A]:ARG:NH2	48:5:3182:G:OP1	2.09	0.84
9:I:84:ALA:O	9:I:140:THR:HG22	1.77	0.84
9:I:175:ASN:OD1	9:I:176:LEU:N	2.08	0.84
3:C:60:THR:HG23	48:5:364:G:OP1	1.77	0.84
48:5:1025:A:H3'	48:5:1026:A:H4'	1.60	0.83
48:5:1231:A:H5''	48:5:1232:C:H5'	1.61	0.83
4:D:95:TRP:CH2	4:D:181:PRO:HD3	2.13	0.83
2:B:169:THR:HG22	2:B:171:LEU:H	1.45	0.82
18:R:62:ARG:NH2	48:5:3068:U:OP2	2.13	0.82
3:C:204:GLY:O	3:C:246:ARG:NH1	2.12	0.82
48:5:851:C:H6	48:5:851:C:H5''	1.44	0.81
48:5:1815:U:O2'	48:5:1816:A:OP2	1.98	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:28:SER:OG	49:7:9:C:OP1	1.97	0.81
3:C:329:PRO:O	3:C:331:ALA:N	2.14	0.81
48:5:1015:U:O2'	48:5:1017:C:OP1	1.99	0.81
3:C:300:ARG:O	17:Q:39:ARG:NH1	2.13	0.81
16:P:25:SER:O	16:P:29:THR:HG23	1.80	0.81
13:M:106:ARG:HB2	13:M:106:ARG:HH11	4.36	0.81
10:J:11:ASP:O	10:J:12:LEU:HB2	1.81	0.80
1:A:193:ARG:NH2	48:5:2181:C:OP1	2.13	0.80
48:5:776:U:H5	48:5:2719:U:O2	1.64	0.80
24:X:115:ARG:NH1	24:X:119:THR:OG1	2.14	0.80
8:H:28:VAL:HG22	8:H:33:THR:HB	1.64	0.80
48:5:766:U:H4'	48:5:767:U:O5'	1.81	0.80
48:5:1804:A:H2'	48:5:1805:C:C6	2.16	0.80
48:5:2440:G:H8	48:5:2440:G:H5'	1.46	0.80
2:B:53:MET:HE3	48:5:3048:A:H5'	1.64	0.80
15:O:110[B]:PRO:O	15:O:112[B]:TYR:N	2.15	0.80
8:H:44:THR:HG22	48:5:3186:A:N3	1.97	0.80
9:I:76:MET:HE1	9:I:148:VAL:HA	1.64	0.80
11:K:120:UNK:O	11:K:122:UNK:N	2.15	0.79
23:W:46:PRO:HB2	23:W:54:LEU:HD23	1.64	0.79
48:5:2255:A:H5'	48:5:2261:G:H22	1.47	0.79
4:D:120:LYS:O	4:D:248:ARG:NH2	2.15	0.79
17:Q:38:ARG:NH2	48:5:1348:U:OP2	2.15	0.79
48:5:2227:C:H2'	48:5:2228:A:H5''	1.65	0.78
48:5:1952:G:H1	48:5:2094:C:H42	1.32	0.78
11:K:126:UNK:O	11:K:130:UNK:N	2.16	0.78
48:5:437:G:N2	48:5:622:A:H61	1.80	0.78
4:D:40:HIS:HD2	4:D:42:ALA:H	1.32	0.78
8:H:20:ILE:HD13	8:H:25:VAL:HG22	1.65	0.77
48:5:15:C:H6	48:5:15:C:H5'	1.49	0.77
24:X:56:ARG:NH2	50:8:135:G:OP2	2.16	0.77
48:5:2511:A:H2'	48:5:2512:C:H5''	1.66	0.77
2:B:37:ARG:HG2	2:B:187:SER:H	1.49	0.77
2:B:188:ILE:H	2:B:188:ILE:HD12	1.50	0.77
48:5:150:A:H2'	48:5:151:A:H5'	1.66	0.77
48:5:2444:C:H42	48:5:2503:G:H1	1.31	0.77
10:J:109:HIS:HD2	10:J:123:PHE:H	1.32	0.77
48:5:3049:A:H8	48:5:3049:A:H5'	1.50	0.76
6:F:88:ARG:HD2	6:F:90:LYS:O	1.86	0.76
14:N:49:ARG:NH2	48:5:149:U:OP2	2.18	0.76
1:A:114:SER:HB2	1:A:169:ILE:HD12	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:83:THR:HG23	26:Z:85:TYR:H	1.50	0.76
2:B:247:ARG:HD3	48:5:1888:U:OP1	1.85	0.76
8:H:77:ASN:HA	8:H:80:THR:HG23	1.66	0.76
25:Y:45:ILE:HD12	25:Y:119:ILE:HG23	1.66	0.76
48:5:2509:U:H2'	48:5:2510:U:H5''	1.68	0.76
6:F:216:VAL:HG11	6:F:227:GLY:HA3	1.67	0.76
48:5:437:G:H22	48:5:622:A:N6	1.81	0.75
4:D:269:SER:OG	49:7:1:G:N3	2.19	0.75
9:I:57:LEU:HD12	49:7:93:C:H5'	1.67	0.75
2:B:129:ALA:O	48:5:3150:A:H5'	1.85	0.75
6:F:158:LYS:HD2	6:F:159:GLN:HA	1.66	0.75
20:T:130:ARG:HD3	48:5:1098:A:OP2	1.87	0.74
48:5:3289:G:H2'	48:5:3290:G:C8	2.23	0.74
20:T:68:THR:HG22	20:T:71:SER:H	1.51	0.74
48:5:2875:U:H3	48:5:2952:G:H1	1.35	0.74
4:D:226:TYR:HE2	4:D:236:LEU:HD11	1.51	0.74
22:V:2:SER:HA	22:V:56:ASP:HA	1.69	0.74
48:5:1724:U:H4'	48:5:1725:C:OP1	1.87	0.73
48:5:1308:A:C8	48:5:1308:A:OP2	2.40	0.73
48:5:2211:U:H5	48:5:2234:G:O6	1.71	0.73
2:B:347:SER:HB3	2:B:350:ALA:H	1.52	0.73
5:E:78:ARG:HG3	5:E:78:ARG:HH11	1.53	0.73
15:O:110[A]:PRO:O	15:O:113[A]:ASP:N	2.20	0.73
14:N:172:ARG:HB3	14:N:174:ILE:HD13	1.70	0.73
25:Y:36:SER:HB2	25:Y:37:LYS:HE2	1.71	0.73
3:C:60:THR:HG21	3:C:77:VAL:HG22	1.71	0.73
16:P:69:ARG:HG2	16:P:79:THR:HG23	1.71	0.73
8:H:171:ASP:OD1	8:H:173:ARG:HD3	1.89	0.73
48:5:1781:C:H2'	48:5:1782:U:H6	1.54	0.73
9:I:3:ARG:NH2	48:5:2854:U:OP2	2.22	0.73
14:N:73:ARG:HG2	14:N:75:VAL:HG13	1.70	0.72
9:I:63:GLU:HB2	48:5:2853:A:H5'	1.70	0.72
48:5:2397:A:OP1	48:5:2398:A:H5''	1.88	0.72
10:J:92:ARG:HG2	10:J:92:ARG:HH11	1.51	0.72
19:S:108:GLN:NE2	48:5:1322:U:O2	2.22	0.72
48:5:2434:U:H4'	48:5:2435:G:H5''	1.70	0.72
48:5:595:G:H1	48:5:609:G:H5''	1.53	0.72
10:J:59:ILE:HD12	10:J:65:ILE:HD11	1.72	0.72
2:B:103:THR:HG21	2:B:147:GLU:OE1	1.90	0.72
19:S:90:MET:CG	48:5:1213:G:H4'	2.18	0.72
16:P:138:LYS:HG3	16:P:140:GLU:HG3	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:114:LYS:HD3	48:5:2093:A:H61	1.55	0.72
48:5:2372:A:H5''	48:5:2373:A:H5'	1.70	0.71
8:H:166:ARG:NH1	8:H:168:ARG:HH22	1.85	0.71
48:5:2836:C:H5	48:5:2852:C:N4	1.85	0.71
17:Q:158:HIS:H	17:Q:186:VAL:HG12	1.54	0.71
16:P:29:THR:HG22	16:P:87:SER:OG	1.90	0.71
48:5:2572:C:O2'	48:5:2573:G:OP2	2.08	0.71
48:5:2818:U:C6	48:5:2818:U:H5'	2.23	0.71
48:5:1024:G:H2'	48:5:1026:A:H8	1.55	0.71
21:U:98:THR:HG23	21:U:104:ARG:HH21	1.55	0.71
48:5:1875:G:H2'	48:5:1876:U:H5''	1.73	0.71
48:5:2437:G:H8	48:5:2437:G:H5'	1.55	0.71
48:5:1781:C:H2'	48:5:1782:U:C6	2.26	0.70
1:A:128:ARG:NH1	48:5:2177:G:OP2	2.23	0.70
48:5:595:G:N1	48:5:609:G:H5''	2.06	0.70
3:C:193:LYS:NZ	50:8:21:C:OP1	2.24	0.70
7:G:68:ARG:O	7:G:69:LEU:HB2	1.89	0.70
17:Q:170:ARG:HA	17:Q:174:ARG:HD2	1.71	0.70
19:S:13:ARG:HG3	19:S:13:ARG:HH11	1.55	0.70
3:C:197:ARG:NH1	48:5:1381:A:OP1	2.24	0.70
4:D:105:ILE:O	4:D:109:THR:HG23	1.92	0.70
48:5:2439:A:H2'	48:5:2440:G:H5''	1.72	0.70
13:M:17:VAL:HG21	13:M:74:ARG:HB2	1.72	0.70
26:Z:5:LEU:HD22	26:Z:77:TYR:CE1	2.27	0.70
2:B:56:ILE:HD11	2:B:359:ILE:HG12	1.74	0.70
48:5:549:U:H2'	48:5:550:A:C8	2.27	0.70
16:P:33:ALA:HB1	16:P:117:ILE:HG12	1.74	0.70
25:Y:3:LYS:HD2	25:Y:8:VAL:HG23	1.72	0.70
48:5:2407:C:H2'	48:5:2408:U:H6	1.56	0.69
26:Z:16:GLY:O	26:Z:18:TYR:N	2.25	0.69
48:5:1631:C:H5''	48:5:1632:A:H5''	1.73	0.69
48:5:1765:U:H4'	48:5:1765:U:OP1	1.91	0.69
7:G:90:THR:HA	7:G:214:LEU:HD21	1.75	0.69
7:G:95:ASN:OD1	7:G:98:ARG:NH1	2.23	0.69
48:5:155:G:H5''	48:5:156:G:C8	2.27	0.69
3:C:73:ARG:NH2	48:5:2814:G:OP1	2.25	0.69
10:J:23:VAL:HG12	10:J:25:GLU:H	1.56	0.69
48:5:1355:A:H4'	48:5:1356:U:O5'	1.93	0.69
48:5:2667:A:H5'	48:5:2667:A:H8	1.56	0.69
48:5:3317:U:H4'	48:5:3318:G:O5'	1.92	0.69
19:S:9:VAL:HG22	19:S:61:ILE:HD13	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:62[A]:THR:H	15:O:69[A]:GLY:HA3	1.57	0.69
48:5:3228:C:O2'	48:5:3229:G:OP2	2.11	0.69
2:B:41:VAL:CA	2:B:185:GLY:HA3	2.19	0.69
20:T:14:MET:HE2	20:T:55:LYS:HB2	1.75	0.69
48:5:173:G:HO2'	48:5:174:C:H6	1.41	0.69
48:5:439:C:H4'	48:5:440:A:H5'	1.74	0.69
3:C:300:ARG:HH11	3:C:300:ARG:HG2	1.58	0.69
8:H:166:ARG:HH11	8:H:168:ARG:NH2	1.87	0.69
26:Z:102:GLU:OE1	26:Z:103:GLN:N	2.25	0.69
18:R:43:LYS:O	18:R:47:ASN:HB2	1.91	0.68
48:5:2507:C:O2'	48:5:2508:U:OP1	2.10	0.68
15:O:68[B]:ARG:NH1	48:5:2988:C:OP1	2.26	0.68
2:B:53:MET:CE	48:5:3048:A:H5'	2.22	0.68
15:O:121[B]:PRO:HA	15:O:124[B]:LEU:HD22	1.76	0.68
48:5:1239:C:H42	48:5:1249:G:H1	1.41	0.68
13:M:133:LYS:NZ	48:5:3227:A:O2'	2.18	0.68
2:B:150:ARG:HH11	2:B:150:ARG:HG2	1.58	0.68
3:C:36:HIS:O	3:C:40:THR:HG23	1.94	0.68
7:G:86:THR:O	7:G:90:THR:HG23	1.94	0.68
21:U:19:VAL:O	21:U:23:THR:OG1	2.11	0.68
48:5:2872:A:OP1	48:5:2872:A:H4'	1.94	0.68
48:5:1013:G:H2'	48:5:1014:U:O4'	1.94	0.68
1:A:68:LYS:NZ	48:5:1579:C:H5''	2.08	0.68
2:B:139:GLN:O	2:B:141:GLY:N	2.27	0.68
6:F:134:VAL:O	6:F:229:PHE:HA	1.94	0.68
15:O:110[A]:PRO:O	15:O:112[A]:TYR:N	2.26	0.68
48:5:3289:G:H2'	48:5:3290:G:H8	1.59	0.68
14:N:109:ARG:NH1	50:8:141:C:OP1	2.26	0.68
7:G:148:ALA:HA	7:G:201:THR:HG22	1.76	0.68
1:A:243:THR:OG1	48:5:2244:A:H5''	1.94	0.68
48:5:420:G:O5'	48:5:420:G:OP2	2.12	0.68
2:B:117:ARG:CZ	2:B:175:LYS:HD2	2.23	0.68
48:5:3155:U:H4'	48:5:3156:U:OP2	1.93	0.67
2:B:221:THR:HG22	2:B:273:HIS:H	1.60	0.67
48:5:2403:G:N2	48:5:2404:A:H62	1.91	0.67
1:A:224:THR:HG21	48:5:2201:G:H21	1.59	0.67
19:S:90:MET:HG2	48:5:1213:G:H4'	1.74	0.67
7:G:241:LYS:HB2	48:5:2586:G:N7	2.08	0.67
48:5:3295:A:H2'	48:5:3296:A:C8	2.29	0.67
2:B:299:ASP:OD1	2:B:301:THR:HG23	1.94	0.67
4:D:187:THR:HG22	4:D:189:GLU:HB2	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:40:HIS:CD2	4:D:42:ALA:H	2.11	0.67
9:I:99:ILE:HG13	9:I:123:HIS:HB2	1.76	0.67
48:5:2957:G:H8	48:5:2957:G:H5'	1.59	0.67
48:5:2996:U:OP1	48:5:2996:U:H4'	1.95	0.67
2:B:41:VAL:HA	2:B:185:GLY:CA	2.22	0.67
19:S:13:ARG:NH1	19:S:13:ARG:HG3	2.08	0.67
8:H:188:THR:HG22	8:H:189:GLU:HG2	1.75	0.67
48:5:252:U:H4'	48:5:253:A:C5'	2.25	0.67
19:S:50:LYS:NZ	49:7:76:A:O2'	2.19	0.67
4:D:76:ALA:HB3	4:D:109:THR:HG22	1.76	0.67
48:5:3330:A:H8	48:5:3330:A:H5''	1.58	0.67
17:Q:134:GLY:O	17:Q:137:THR:OG1	2.11	0.67
19:S:137:ARG:HG2	19:S:139:TYR:CE2	2.30	0.67
15:O:160[B]:ARG:NH2	48:5:3182:G:OP1	2.27	0.66
48:5:1560:G:O2'	48:5:1561:G:OP1	2.12	0.66
20:T:51:GLY:HA3	20:T:92:ARG:HG3	1.76	0.66
48:5:2204:C:H4'	48:5:2205:U:OP1	1.95	0.66
48:5:304:G:N3	48:5:304:G:H5'	2.10	0.66
12:L:59:ARG:HD3	48:5:73:C:C2	2.31	0.66
49:7:91:G:H2'	49:7:92:A:C8	2.30	0.66
2:B:126:LYS:NZ	48:5:3294:A:OP2	2.29	0.66
48:5:1481:A:O4'	48:5:1481:A:OP1	2.12	0.66
18:R:74:ARG:NH1	48:5:1942:U:OP2	2.27	0.66
5:E:78:ARG:NH1	48:5:3272:C:OP2	2.28	0.66
3:C:20:LEU:HD13	3:C:256:THR:HG23	1.76	0.66
9:I:86:HIS:HB3	9:I:139:ARG:HG2	1.77	0.66
6:F:178:ILE:HA	6:F:183:ASP:HB3	1.77	0.66
10:J:9:MET:O	10:J:11:ASP:N	2.29	0.66
20:T:129:LYS:HB3	48:5:1097:G:H4'	1.78	0.66
48:5:2549:G:C8	48:5:2549:G:H5'	2.31	0.66
14:N:182:ASN:O	14:N:183:THR:HG22	1.96	0.66
50:8:79:A:H3'	50:8:80:A:C8	2.31	0.66
18:R:35:ALA:O	18:R:36:ASN:ND2	2.29	0.66
48:5:118:U:O2	48:5:121:A:H5'	1.97	0.65
48:5:2667:A:H5'	48:5:2667:A:C8	2.30	0.65
48:5:2777:G:C8	48:5:2777:G:H5''	2.31	0.65
48:5:618:C:H2'	48:5:619:A:C8	2.31	0.65
2:B:120:LYS:NZ	48:5:3001:C:OP1	2.28	0.65
18:R:84:THR:O	18:R:88:ARG:HG2	1.96	0.65
26:Z:3:LYS:HE3	26:Z:5:LEU:HD12	1.78	0.65
48:5:15:C:C6	48:5:15:C:H5'	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:1655:G:C5'	48:5:1655:G:H8	2.08	0.65
1:A:70:ARG:HH22	48:5:2522:G:H1	1.44	0.65
4:D:270:LYS:O	4:D:273:ARG:HB3	1.96	0.65
50:8:77:A:H2'	50:8:78:G:O4'	1.96	0.65
3:C:20:LEU:HD11	3:C:252:GLU:HG3	1.78	0.65
18:R:102:LEU:HD13	18:R:127:SER:HB2	1.77	0.65
25:Y:35:LEU:HD13	25:Y:39:LEU:HB3	1.77	0.65
10:J:72:ARG:NH1	50:8:95:G:OP2	152.03	0.65
21:U:47:VAL:O	21:U:49:ASN:N	2.29	0.65
14:N:125:SER:HB3	48:5:2433:U:H1'	1.79	0.65
48:5:249:U:O2'	48:5:250:U:H5''	1.95	0.65
4:D:140:ARG:HD3	48:5:1080:A:OP1	1.97	0.65
15:O:88[A]:VAL:O	15:O:90[A]:HIS:N	2.30	0.65
48:5:2103:U:H2'	48:5:2104:A:C8	2.31	0.65
1:A:116:VAL:HG13	1:A:126:LEU:HB2	1.76	0.65
19:S:137:ARG:HG2	19:S:139:TYR:CZ	2.32	0.65
48:5:2569:A:H4'	48:5:2570:U:H5'	1.78	0.65
13:M:48:GLY:HA3	13:M:53:VAL:HG13	1.78	0.65
48:5:1659:U:H2'	48:5:1660:C:C6	2.32	0.65
48:5:900:G:H1'	48:5:1589:A:N6	2.12	0.65
1:A:204:MET:HE2	1:A:209:HIS:HB2	1.79	0.65
2:B:117:ARG:HA	2:B:175:LYS:HD3	1.78	0.65
4:D:106:ALA:O	4:D:110:LEU:HD22	1.98	0.65
18:R:114:LYS:HD3	48:5:2093:A:N6	2.12	0.65
48:5:1818:U:H2'	48:5:1819:U:C6	2.32	0.64
48:5:2436:U:H3	48:5:2511:A:H62	1.45	0.64
48:5:892:U:C2'	48:5:893:C:H5'	2.26	0.64
7:G:100:GLU:OE2	7:G:108:ARG:NH1	2.30	0.64
8:H:90:MET:HB2	8:H:144:ILE:HG22	1.80	0.64
25:Y:52:ARG:HA	25:Y:70:ILE:HG22	1.77	0.64
26:Z:25:ILE:HA	26:Z:43:VAL:HG12	1.78	0.64
48:5:2436:U:H3	48:5:2511:A:N6	1.95	0.64
3:C:339:LEU:HA	3:C:342:LYS:HB3	1.79	0.64
10:J:87:LYS:HD2	10:J:104:PHE:CD2	2.32	0.64
8:H:12:VAL:HG13	8:H:16:VAL:HG22	1.79	0.64
25:Y:112:ASP:HB3	25:Y:115:ARG:HB2	1.80	0.64
48:5:1818:U:H2'	48:5:1819:U:H6	1.62	0.64
48:5:830:A:O2'	48:5:1866:C:H2'	1.98	0.64
15:O:12[B]:LYS:O	19:S:167:ARG:NH2	2.28	0.64
13:M:121:MET:HE1	48:5:3215:A:O5'	1.98	0.64
48:5:247:C:C2	48:5:248:U:H1'	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:58:VAL:HG13	48:5:75:G:H5''	1.78	0.64
14:N:68:ARG:HA	14:N:98:LEU:HD21	1.80	0.64
18:R:173:ARG:HH21	18:R:177:VAL:HG21	1.62	0.64
48:5:3174:A:N6	48:5:3278:C:N3	2.46	0.64
4:D:265:TYR:HE1	49:7:121:U:H5''	1.63	0.64
48:5:528:U:H2'	48:5:529:A:C8	2.33	0.64
48:5:2403:G:N7	48:5:2870:C:H4'	2.12	0.63
1:A:181:LYS:NZ	48:5:860:G:O5'	2.31	0.63
7:G:121:SER:O	7:G:123:GLN:N	2.31	0.63
12:L:93:ILE:HG22	12:L:94:GLY:H	1.64	0.63
14:N:80:THR:HG21	14:N:87:GLN:HA	1.78	0.63
48:5:1085:A:C5'	48:5:1085:A:H8	2.10	0.63
48:5:1241:U:O2'	48:5:1242:G:O5'	2.14	0.63
48:5:541:U:H2'	48:5:542:G:C8	2.34	0.63
12:L:56:PRO:HG3	12:L:74:GLY:O	1.98	0.63
4:D:270:LYS:HB3	49:7:1:G:O2'	1.99	0.63
2:B:293:ASN:HB2	2:B:304:THR:HA	1.80	0.63
10:J:109:HIS:CD2	10:J:123:PHE:H	2.15	0.63
2:B:238:LEU:HB3	2:B:242:THR:HG21	1.81	0.63
1:A:224:THR:HG23	48:5:2202:C:O4'	1.97	0.63
19:S:26:ARG:HH11	20:T:150:THR:HG21	1.61	0.63
48:5:2440:G:H2'	48:5:2441:A:C8	2.34	0.63
16:P:31:GLU:HG3	16:P:60:PHE:HA	1.80	0.63
48:5:150:A:C2'	48:5:151:A:H5'	2.29	0.63
7:G:48:ARG:NH2	48:5:2588:U:OP1	2.29	0.63
1:A:204:MET:CE	1:A:209:HIS:HB2	2.29	0.63
7:G:161:GLU:HA	7:G:164:VAL:HG22	1.80	0.63
26:Z:50:PRO:HD3	26:Z:68:ILE:HG12	1.81	0.63
48:5:1094:U:O2'	48:5:1095:U:H3'	1.99	0.62
48:5:3049:A:H5'	48:5:3049:A:C8	2.34	0.62
1:A:209:HIS:HD2	1:A:211:HIS:H	1.47	0.62
48:5:1564:U:H2'	48:5:1565:G:C8	2.34	0.62
48:5:3195:U:O2'	48:5:3196:U:H5'	1.99	0.62
14:N:183:THR:O	14:N:184:LYS:HB3	1.98	0.62
22:V:33:ASN:HD22	22:V:63:LYS:HB2	1.63	0.62
7:G:151:VAL:HG22	7:G:199:ALA:HB1	1.81	0.62
48:5:1023:C:H5''	48:5:1024:G:OP2	1.99	0.62
48:5:734:C:H2'	48:5:735:A:H5''	1.81	0.62
2:B:2:SER:HA	48:5:2940:A:N7	2.14	0.62
16:P:62:ARG:NH1	48:5:412:G:OP1	2.32	0.62
17:Q:165:ILE:HD12	17:Q:167:SER:O	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:73:LYS:NZ	19:S:97:VAL:O	2.32	0.62
48:5:2818:U:H6	48:5:2818:U:C5'	2.10	0.62
2:B:296:THR:HG22	2:B:298:PHE:N	2.03	0.62
4:D:211:LEU:HD13	4:D:219:PHE:HA	1.80	0.62
48:5:2561:A:HO2'	48:5:2562:A:H8	1.47	0.62
2:B:221:THR:HB	2:B:273:HIS:O	2.00	0.62
7:G:33:ASN:O	7:G:35:GLY:N	2.33	0.62
9:I:14:ASN:O	9:I:128:ARG:NH2	2.33	0.62
9:I:174:THR:HG23	9:I:175:ASN:H	1.63	0.62
48:5:1566:A:H2'	48:5:1567:U:H5'	1.81	0.62
48:5:979:U:H1'	48:5:980:A:C4	2.34	0.62
15:O:72[A]:HIS:HD2	48:5:3008:A:OP1	1.83	0.61
48:5:3358:U:H2'	48:5:3359:A:H8	1.65	0.61
48:5:2407:C:H2'	48:5:2408:U:C6	2.35	0.61
25:Y:37:LYS:CD	25:Y:37:LYS:H	2.13	0.61
48:5:3165:A:H2'	48:5:3166:C:H6	1.65	0.61
13:M:124:ARG:NH2	48:5:3212:C:OP2	2.33	0.61
48:5:3227:A:H2'	48:5:3228:C:H5'	1.82	0.61
48:5:725:G:H2'	48:5:726:G:H5''	1.81	0.61
48:5:817:A:OP2	48:5:817:A:H4'	1.98	0.61
4:D:265:TYR:OH	49:7:121:U:OP2	2.13	0.61
2:B:151:ILE:O	2:B:155:ALA:HB3	2.01	0.61
15:O:180[B]:SER:OG	15:O:181[B]:ALA:N	2.29	0.61
48:5:132:C:H2'	48:5:133:U:H5''	1.82	0.61
9:I:76:MET:CE	9:I:148:VAL:HA	2.30	0.61
48:5:3269:U:H4'	48:5:3270:U:O5'	2.00	0.61
15:O:85[A]:ARG:HD3	15:O:90[A]:HIS:CG	2.36	0.61
48:5:2970:C:O2'	48:5:2971:A:OP2	2.16	0.61
3:C:330:TYR:O	3:C:334:PHE:N	2.31	0.61
48:5:1567:U:H1'	48:5:1570:U:H5	1.66	0.61
48:5:1804:A:H2'	48:5:1805:C:H6	1.63	0.61
48:5:2537:U:O2'	48:5:2538:U:P	2.59	0.61
48:5:3195:U:H1'	48:5:3196:U:OP1	2.01	0.61
9:I:61:SER:HB2	9:I:63:GLU:HG2	1.82	0.61
17:Q:86:THR:HB	17:Q:105:ARG:HB3	1.81	0.61
26:Z:33:SER:HB3	26:Z:36:HIS:HB2	1.83	0.61
48:5:920:A:OP1	48:5:922:U:H5	1.84	0.61
2:B:152:LYS:HD3	2:B:189:SER:HA	1.83	0.61
11:K:109:UNK:O	11:K:113:UNK:N	2.34	0.61
2:B:147:GLU:OE2	2:B:150:ARG:NH2	2.34	0.60
4:D:41:LYS:HB2	20:T:68:THR:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:40:LEU:HB3	5:E:84:VAL:HG13	1.82	0.60
16:P:125:GLN:HB2	16:P:141:SER:HB2	1.83	0.60
48:5:2895:G:H2'	48:5:2896:A:H5''	1.82	0.60
15:O:68[B]:ARG:NH1	48:5:2988:C:P	2.75	0.60
3:C:232:SER:O	3:C:233:LEU:HB2	2.01	0.60
8:H:70:THR:HG21	48:5:3122:A:N1	2.16	0.60
48:5:1235:U:C4'	48:5:1236:G:H5'	2.29	0.60
14:N:172:ARG:NH1	48:5:29:C:O3'	2.33	0.60
1:A:204:MET:HE3	1:A:208:ASP:HB3	1.81	0.60
48:5:3341:U:H5''	48:5:3342:A:OP2	2.01	0.60
2:B:188:ILE:H	2:B:188:ILE:CD1	2.14	0.60
16:P:59:PRO:HG3	16:P:76:PHE:CD2	2.35	0.60
24:X:57:LEU:HD23	24:X:61:LYS:HG2	1.82	0.60
48:5:2537:U:H2'	48:5:2538:U:O4'	2.02	0.60
48:5:385:A:H2'	48:5:386:A:C8	2.36	0.60
50:8:78:G:H2'	50:8:79:A:O4'	2.02	0.60
3:C:144:LYS:HG2	3:C:145:ILE:H	1.65	0.60
7:G:132:VAL:HG21	7:G:190:VAL:HG22	1.83	0.60
48:5:1500:G:H2'	48:5:1501:U:O4'	2.01	0.60
9:I:158:LYS:NZ	48:5:2852:C:N3	2.49	0.60
7:G:27:THR:O	7:G:28:HIS:ND1	2.34	0.60
8:H:62:ARG:NH2	48:5:3115:C:OP1	2.34	0.60
7:G:213:LYS:O	7:G:217:THR:HG22	2.02	0.60
21:U:82:LYS:NZ	48:5:1686:U:O4	2.33	0.60
48:5:1764:U:H3'	48:5:1765:U:H5''	1.84	0.60
48:5:22:G:H1'	50:8:104:A:N3	2.16	0.60
48:5:2372:A:H4'	48:5:2373:A:OP2	2.02	0.60
9:I:177:ASP:OD1	9:I:177:ASP:N	2.35	0.60
16:P:74:LYS:NZ	48:5:3298:C:OP1	2.35	0.59
26:Z:83:THR:HG23	26:Z:85:TYR:N	2.15	0.59
48:5:1329:U:H4'	48:5:1330:A:OP1	2.02	0.59
48:5:2103:U:H2'	48:5:2104:A:H8	1.66	0.59
4:D:152:ARG:HG3	4:D:152:ARG:HH11	1.66	0.59
4:D:64:ILE:HG13	4:D:109:THR:HG21	1.83	0.59
2:B:232:ARG:NH2	48:5:2989:U:O2'	2.36	0.59
1:A:105:GLY:HA3	1:A:160:SER:HB3	1.83	0.59
13:M:113:THR:HG22	13:M:115:PHE:H	1.66	0.59
1:A:206:PRO:HD3	1:A:213:GLY:HA2	1.84	0.59
26:Z:46:ILE:HG12	26:Z:49:TYR:CE1	2.37	0.59
48:5:1308:A:OP2	48:5:1308:A:H8	1.85	0.59
48:5:851:C:C6	48:5:851:C:H5''	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:19:GLN:NE2	50:8:53:A:OP1	47.37	0.59
12:L:15:ARG:NH2	48:5:96:G:OP1	2.36	0.59
25:Y:120:GLN:NE2	25:Y:126:LEU:HA	2.17	0.59
48:5:1605:A:O2'	48:5:1607:U:OP2	2.12	0.59
48:5:3155:U:H3'	48:5:3156:U:H5''	1.85	0.59
10:J:166:LYS:O	10:J:168:ASP:N	2.34	0.59
11:K:134:UNK:O	11:K:137:UNK:N	2.35	0.59
12:L:93:ILE:HG22	12:L:94:GLY:N	2.17	0.59
15:O:110[A]:PRO:O	15:O:111[A]:PRO:C	2.41	0.59
25:Y:82:VAL:O	25:Y:84:LYS:N	2.35	0.59
26:Z:54:THR:H	26:Z:57:HIS:CD2	2.20	0.59
4:D:184:ASP:HB3	4:D:187:THR:HB	1.84	0.59
4:D:261:THR:OG1	4:D:264:GLN:HG3	2.02	0.59
4:D:85:ARG:HD3	4:D:86:TYR:CE1	2.38	0.59
9:I:72:ALA:O	9:I:76:MET:HG2	2.02	0.59
15:O:36[B]:VAL:HB	15:O:108[B]:ILE:HB	1.85	0.59
48:5:2511:A:C2'	48:5:2512:C:H5''	2.32	0.59
8:H:26:LYS:HG3	8:H:35:THR:HG22	1.85	0.59
48:5:208:C:C2'	48:5:209:A:H5'	2.33	0.58
48:5:2512:C:H5'	48:5:2512:C:C6	2.30	0.58
48:5:955:U:H2'	48:5:956:U:C6	2.37	0.58
3:C:16:THR:HG23	3:C:18:ASN:H	1.68	0.58
4:D:226:TYR:CE2	4:D:236:LEU:HD11	2.35	0.58
20:T:17:ARG:NH1	20:T:17:ARG:HG2	2.17	0.58
48:5:1879:A:H4'	48:5:1880:U:OP2	2.02	0.58
48:5:2897:A:H2'	48:5:2899:C:C5'	2.32	0.58
48:5:3228:C:H4'	48:5:3229:G:O5'	2.03	0.58
50:8:156:U:O2'	50:8:157:U:OP1	2.17	0.58
19:S:115:ARG:NH2	48:5:1320:C:O2	2.36	0.58
48:5:3078:U:H4'	48:5:3079:U:O5'	2.03	0.58
48:5:438:A:H2'	48:5:494:G:H21	1.68	0.58
3:C:300:ARG:HH11	3:C:300:ARG:CG	2.15	0.58
19:S:155:ARG:HD3	19:S:172:TYR:CG	2.39	0.58
20:T:12:ARG:HD3	20:T:13:TYR:CZ	2.38	0.58
48:5:1816:A:O2'	48:5:1817:G:OP1	2.15	0.58
48:5:1949:G:H1	48:5:2097:U:H3	1.50	0.58
48:5:547:G:H2'	48:5:548:G:O4'	2.03	0.58
2:B:187:SER:HB3	2:B:190:GLU:OE1	2.04	0.58
48:5:171:G:N2	48:5:248:U:O2	2.35	0.58
48:5:2510:U:O2'	48:5:2511:A:H5''	2.03	0.58
4:D:258:LYS:O	4:D:258:LYS:HG2	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:153:ASP:OD2	12:L:157:ARG:NH1	2.36	0.58
24:X:103:TYR:O	24:X:105:VAL:HG23	2.03	0.58
48:5:1574:C:O2'	48:5:1575:A:OP1	2.22	0.58
48:5:3280:U:O2'	48:5:3281:U:H5''	2.03	0.58
3:C:138:ARG:NH2	3:C:240:PRO:HB2	2.18	0.58
14:N:172:ARG:HH11	48:5:30:G:P	2.27	0.58
22:V:87:ARG:HH22	22:V:137:VAL:HG22	1.68	0.58
48:5:1579:C:H2'	48:5:1580:A:H5'	1.86	0.58
48:5:2434:U:C4'	48:5:2435:G:H5''	2.33	0.58
48:5:243:G:H2'	48:5:244:G:C8	2.38	0.58
1:A:52:SER:HB3	1:A:191:LEU:HD12	1.85	0.58
2:B:46:PHE:CE2	2:B:205:VAL:HG13	2.39	0.58
3:C:259:ASP:OD1	3:C:259:ASP:N	2.35	0.58
9:I:86:HIS:HB3	9:I:139:ARG:CG	2.34	0.58
15:O:10[A]:ASP:OD2	15:O:37[A]:ARG:NH2	2.31	0.58
16:P:67:ILE:HD12	16:P:82:ARG:CZ	2.34	0.58
48:5:2897:A:H2'	48:5:2899:C:H5''	1.86	0.58
6:F:151:ARG:HD2	6:F:244:ASN:OD1	2.04	0.58
22:V:48:ARG:NH2	48:5:3043:C:OP2	2.36	0.58
48:5:1081:U:HO2'	48:5:1082:U:C5'	2.16	0.57
48:5:2207:A:H62	48:5:2236:G:H1	1.52	0.57
48:5:2211:U:H5	48:5:2234:G:C6	2.22	0.57
49:7:91:G:H2'	49:7:92:A:H8	1.69	0.57
3:C:170:LYS:HG3	3:C:175:HIS:HB2	1.85	0.57
3:C:18:ASN:N	3:C:18:ASN:OD1	2.37	0.57
7:G:108:ARG:O	7:G:112:GLU:N	2.31	0.57
9:I:168:SER:HB2	20:T:160:ILE:O	2.03	0.57
12:L:73:ARG:NH1	48:5:110:G:OP2	2.37	0.57
21:U:19:VAL:HG12	21:U:105:LEU:HD22	1.85	0.57
48:5:2112:U:H4'	48:5:2113:A:H5'	1.86	0.57
48:5:2440:G:O2'	48:5:2441:A:OP1	2.18	0.57
14:N:176:LYS:HE2	48:5:66:A:N3	2.19	0.57
14:N:201:ARG:NH2	48:5:692:A:OP1	2.31	0.57
4:D:285:ARG:NH1	49:7:62:U:O3'	2.37	0.57
2:B:323:MET:HE2	2:B:356:LEU:HD11	1.87	0.57
3:C:144:LYS:CG	3:C:145:ILE:H	2.18	0.57
3:C:283:THR:HG21	3:C:288:ARG:HH22	1.69	0.57
8:H:120:ASP:OD2	8:H:124:ARG:NH2	2.37	0.57
16:P:30:ARG:HA	16:P:119:VAL:CG1	2.34	0.57
48:5:2546:C:H2'	48:5:2547:A:H8	1.68	0.57
10:J:137:ARG:HG2	49:7:28:C:H5''	1.84	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:361:HIS:CG	3:C:362:ASP:H	2.21	0.57
14:N:67:ARG:O	14:N:68:ARG:HB3	2.04	0.57
2:B:166:ILE:O	2:B:169:THR:HB	2.05	0.57
8:H:91:ARG:NH2	8:H:141:LYS:O	2.37	0.57
3:C:59:GLN:OE1	10:J:55:ARG:NH2	102.23	0.57
5:E:176:PHE:H	13:M:117:ARG:HH22	1.51	0.57
15:O:110[B]:PRO:O	15:O:113[B]:ASP:N	2.27	0.57
8:H:22:SER:HB2	8:H:39:LYS:NZ	2.19	0.57
11:K:118:UNK:O	11:K:120:UNK:N	2.37	0.57
48:5:708:G:H5''	48:5:708:G:H8	1.70	0.57
48:5:979:U:H4'	48:5:980:A:OP1	2.04	0.57
7:G:90:THR:HG22	7:G:214:LEU:HG	1.87	0.57
20:T:56:PHE:CZ	20:T:78:LYS:HD3	2.39	0.57
48:5:1093:A:H4'	48:5:1093:A:OP1	2.05	0.57
48:5:1573:G:C6	48:5:1574:C:H1'	2.40	0.57
48:5:2442:G:H22	48:5:2506:U:H3	1.53	0.57
48:5:2439:A:N6	48:5:2508:U:H3	2.01	0.57
8:H:86:TYR:CD1	8:H:151:VAL:HG13	2.40	0.57
20:T:7:TYR:OH	20:T:54:HIS:HB2	2.04	0.57
48:5:3343:G:N2	48:5:3362:A:H2	1.97	0.57
9:I:81:GLY:O	9:I:83:ASP:N	2.36	0.57
15:O:159[A]:LYS:NZ	48:5:3243:A:OP1	2.37	0.57
48:5:3358:U:H2'	48:5:3359:A:C8	2.39	0.57
48:5:1064:A:H4'	48:5:1065:A:O5'	2.04	0.57
48:5:2537:U:O2'	48:5:2538:U:O5'	2.22	0.57
23:W:120:LYS:HA	23:W:123:ARG:HH11	1.69	0.57
48:5:1085:A:C8	48:5:1085:A:C5'	2.88	0.56
48:5:2101:C:O2'	48:5:2102:U:OP1	2.22	0.56
48:5:701:G:H2'	48:5:702:C:C6	2.40	0.56
1:A:243:THR:HG1	48:5:2244:A:H5''	1.69	0.56
3:C:288:ARG:O	3:C:291:ASN:N	2.31	0.56
14:N:16:SER:O	14:N:20:ARG:HG2	2.05	0.56
14:N:168:GLY:O	14:N:172:ARG:HB2	2.04	0.56
15:O:65[A]:ASN:OD1	15:O:67[A]:THR:HB	2.04	0.56
48:5:240:U:O2'	48:5:241:G:O5'	2.19	0.56
48:5:2971:A:OP2	48:5:2971:A:H3'	2.04	0.56
15:O:15[A]:LEU:HD21	15:O:125[A]:ARG:HG3	1.86	0.56
48:5:1032:C:H5'	48:5:1033:U:OP2	2.06	0.56
4:D:270:LYS:HG2	49:7:2:G:H5'	1.86	0.56
8:H:86:TYR:CE2	8:H:151:VAL:HG22	2.39	0.56
48:5:1272:C:H2'	48:5:1273:A:H5'	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:1835:A:H5''	48:5:1836:C:OP2	2.05	0.56
1:A:156:LYS:NZ	48:5:2158:A:OP2	2.37	0.56
48:5:550:A:H2'	48:5:551:A:C8	2.40	0.56
25:Y:51:ARG:HG2	25:Y:115:ARG:NH2	2.20	0.56
26:Z:36:HIS:CD2	26:Z:74:VAL:HG11	2.41	0.56
48:5:725:G:C3'	48:5:726:G:H5''	2.36	0.56
2:B:218:ILE:HG13	2:B:276:THR:HG23	1.88	0.56
13:M:113:THR:HG22	13:M:115:PHE:N	2.20	0.56
14:N:49:ARG:NH1	48:5:115:A:OP1	2.38	0.56
48:5:1157:G:H2'	48:5:1158:A:O4'	2.06	0.56
48:5:2436:U:H2'	48:5:2437:G:H5''	1.88	0.56
48:5:776:U:C5	48:5:2719:U:O2	2.52	0.56
14:N:172:ARG:NH1	48:5:30:G:P	2.79	0.56
4:D:191:ASP:OD1	4:D:193:GLU:HB2	2.04	0.56
7:G:133:LYS:HB2	7:G:199:ALA:O	2.04	0.56
17:Q:100:THR:HG22	17:Q:120:GLU:HB3	1.86	0.56
48:5:1581:C:OP2	48:5:1581:C:H4'	2.03	0.56
48:5:2659:G:H4'	48:5:2751:G:O2'	2.05	0.56
48:5:892:U:O2'	48:5:893:C:H5'	2.04	0.56
2:B:7:GLU:HG2	48:5:2915:U:C5	2.41	0.56
5:E:109:GLU:H	5:E:109:GLU:CD	2.07	0.56
22:V:57:MET:HE3	22:V:126:TRP:CH2	2.40	0.56
48:5:1238:C:H2'	48:5:1239:C:H5''	1.87	0.56
48:5:252:U:H4'	48:5:253:A:H5''	1.86	0.56
4:D:146:LEU:HB3	48:5:2746:A:H2	1.71	0.56
48:5:2946:A:H5''	48:5:2947:G:H5'	1.86	0.56
2:B:367:LYS:HZ1	23:W:34:SER:H	1.53	0.56
3:C:144:LYS:H	3:C:144:LYS:NZ	2.03	0.56
5:E:176:PHE:H	13:M:117:ARG:NH2	2.04	0.56
13:M:132:LYS:HD3	48:5:3230:G:H4'	1.87	0.56
15:O:180[B]:SER:O	15:O:183[B]:ALA:N	2.39	0.56
48:5:1688:U:H2'	48:5:1689:U:C6	2.41	0.56
50:8:126:A:O2'	50:8:128:U:OP2	2.16	0.56
4:D:152:ARG:HG3	4:D:152:ARG:NH1	2.19	0.56
8:H:70:THR:HB	48:5:3112:G:O2'	2.06	0.56
26:Z:111:LYS:HD3	48:5:1629:U:O4	2.05	0.56
7:G:151:VAL:HG13	7:G:199:ALA:HB2	1.87	0.56
15:O:110[B]:PRO:O	15:O:111[B]:PRO:C	2.44	0.56
19:S:155:ARG:HH11	19:S:172:TYR:H	1.54	0.56
25:Y:55:GLU:HB2	25:Y:108:LYS:HB2	1.87	0.56
48:5:2676:A:H4'	48:5:2677:G:O5'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:726:G:H5'	48:5:726:G:C8	2.31	0.56
26:Z:135:ARG:HB3	26:Z:135:ARG:HH11	1.71	0.56
48:5:2440:G:HO2'	48:5:2441:A:P	2.29	0.55
48:5:2726:C:O2'	48:5:2727:A:H2'	2.04	0.55
48:5:3160:U:H2'	48:5:3161:C:C6	2.41	0.55
48:5:599:C:H2'	48:5:600:G:O4'	2.06	0.55
4:D:270:LYS:HG3	4:D:273:ARG:CB	2.36	0.55
5:E:18:LEU:H	5:E:18:LEU:HD12	1.71	0.55
22:V:3:GLY:HA2	22:V:40:LYS:HB3	1.87	0.55
48:5:1568:U:H4'	48:5:1569:U:OP1	2.06	0.55
48:5:420:G:OP1	48:5:420:G:OP2	2.24	0.55
48:5:541:U:H2'	48:5:542:G:H8	1.70	0.55
1:A:193:ARG:NH1	48:5:2174:G:OP2	2.40	0.55
3:C:316:ASN:O	3:C:319:LYS:O	2.24	0.55
48:5:1240:A:H2'	48:5:1241:U:H5'	1.87	0.55
48:5:1541:G:H2'	48:5:1542:G:O5'	2.06	0.55
48:5:1716:U:H6	48:5:1716:U:H5'	1.71	0.55
48:5:209:A:H4'	48:5:211:A:C8	2.42	0.55
48:5:2530:G:H2'	48:5:2531:C:H5'	1.87	0.55
48:5:3285:C:H2'	48:5:3286:G:H5''	1.88	0.55
48:5:585:A:H2'	48:5:586:C:C6	2.41	0.55
1:A:45:VAL:HG22	1:A:84:THR:HA	1.88	0.55
2:B:21:ARG:HD3	2:B:269:GLN:OE1	2.06	0.55
9:I:74:LYS:O	9:I:78:THR:HG23	2.06	0.55
15:O:64[A]:PHE:HE2	15:O:68[A]:ARG:HH11	1.54	0.55
17:Q:122:ILE:HD11	17:Q:130:ARG:NH1	2.22	0.55
17:Q:153:PHE:O	17:Q:161:LYS:HG2	2.06	0.55
21:U:42:LYS:HG2	21:U:46:ALA:HA	1.88	0.55
26:Z:135:ARG:O	48:5:2555:G:N2	2.39	0.55
48:5:8:C:H2'	48:5:9:U:O4'	2.07	0.55
3:C:361:HIS:CG	3:C:362:ASP:N	2.74	0.55
8:H:20:ILE:HG23	8:H:25:VAL:HG22	1.87	0.55
10:J:90:GLN:HG2	10:J:170:ASP:HB2	1.88	0.55
14:N:14:LYS:HE2	48:5:269:G:H5''	1.88	0.55
25:Y:60:ARG:NH1	48:5:200:C:OP1	2.39	0.55
48:5:1579:C:C2'	48:5:1580:A:H5'	2.37	0.55
48:5:173:G:H22	48:5:246:U:H1'	1.71	0.55
48:5:59:G:H4'	48:5:60:A:H4'	1.88	0.55
9:I:210:ILE:HA	9:I:217:PHE:CE1	2.41	0.55
9:I:82:ARG:O	9:I:82:ARG:HG2	2.07	0.55
14:N:8:GLU:HG3	14:N:50:ARG:NH1	2.16	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:18[B]:ARG:NH2	48:5:1318:A:OP1	2.39	0.55
23:W:25:ASP:N	23:W:25:ASP:OD1	2.36	0.55
48:5:1110:U:H2'	48:5:1111:U:C6	2.42	0.55
48:5:1724:U:H1'	48:5:1725:C:C6	2.42	0.55
5:E:40:LEU:HD11	5:E:54:TYR:HB2	1.87	0.55
13:M:16:GLU:HB3	19:S:149:LYS:HB3	1.89	0.55
48:5:1811:G:H2'	48:5:1812:G:O4'	2.07	0.55
48:5:2971:A:H5''	48:5:2972:G:C5'	2.37	0.55
5:E:50:LYS:HG2	5:E:74:VAL:CG2	2.36	0.55
8:H:12:VAL:N	8:H:51:GLN:O	2.35	0.55
10:J:82:ARG:HD2	10:J:112:LEU:HB2	1.89	0.55
12:L:35:ARG:NH1	48:5:685:G:OP2	2.40	0.55
14:N:46:ASP:N	14:N:46:ASP:OD1	2.38	0.55
20:T:54:HIS:CE1	20:T:55:LYS:HD3	2.41	0.55
48:5:2403:G:H22	48:5:2404:A:H62	1.55	0.55
48:5:2440:G:H5'	48:5:2440:G:C8	2.35	0.55
5:E:50:LYS:HG2	5:E:74:VAL:HG21	1.89	0.55
6:F:175:LYS:HD3	6:F:176:TYR:CZ	2.42	0.55
48:5:1247:U:H6	48:5:1247:U:O5'	1.90	0.55
48:5:3334:U:H4'	48:5:3335:A:H5''	1.88	0.55
19:S:52:LYS:NZ	49:7:100:C:OP2	2.37	0.55
10:J:155:THR:O	10:J:159:THR:HG23	2.07	0.55
15:O:172[A]:ARG:HA	15:O:175[A]:THR:HG23	1.89	0.55
16:P:108:ASP:N	16:P:152:GLU:OE2	2.31	0.55
16:P:138:LYS:NZ	48:5:2356:A:OP1	2.39	0.55
2:B:275:ARG:NH1	48:5:3045:G:O3'	2.40	0.55
10:J:28:ASP:HA	10:J:31:THR:HG23	1.89	0.55
48:5:3288:G:C4	48:5:3289:G:C8	2.95	0.54
17:Q:147:ARG:NH2	48:5:670:C:OP1	2.40	0.54
4:D:279:LYS:HD3	4:D:282:ARG:NH2	2.22	0.54
11:K:63:UNK:HA	11:K:71:UNK:O	2.07	0.54
48:5:2589:G:C2'	48:5:2590:A:H5'	2.37	0.54
8:H:88:TYR:CZ	8:H:184:LYS:HD3	2.42	0.54
19:S:90:MET:HG3	48:5:1213:G:H4'	1.88	0.54
24:X:105:VAL:HG11	24:X:126:LEU:HD13	1.89	0.54
12:L:15:ARG:CZ	48:5:96:G:H5'	2.38	0.54
10:J:137:ARG:NH2	49:7:44:C:OP2	2.40	0.54
12:L:75:PHE:H	12:L:97:VAL:HA	1.72	0.54
48:5:3198:U:H4'	48:5:3199:G:OP2	2.08	0.54
48:5:3279:A:C2'	48:5:3280:U:H5'	2.36	0.54
1:A:116:VAL:HG11	1:A:134:VAL:HG11	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:31:ARG:NH2	5:E:81:ALA:O	2.40	0.54
14:N:183:THR:O	14:N:183:THR:HG23	2.07	0.54
18:R:105:LEU:HG	18:R:138:LEU:HD12	1.89	0.54
48:5:1566:A:C2'	48:5:1567:U:H5'	2.38	0.54
48:5:913:A:H2	48:5:2134:G:N3	2.04	0.54
19:S:170:THR:HG1	48:5:3185:U:HO2'	1.55	0.54
23:W:50:ALA:HA	23:W:55:PHE:CG	2.43	0.54
14:N:71:ARG:NH2	48:5:32:U:O3'	2.41	0.54
12:L:101:ARG:HB2	48:5:76:G:N7	2.22	0.54
3:C:326:ARG:O	6:F:41:ARG:NH2	2.40	0.54
5:E:78:ARG:HG3	5:E:78:ARG:NH1	2.19	0.54
12:L:50:PRO:O	12:L:51:LEU:HB2	2.06	0.54
21:U:74:LYS:HE3	48:5:1677:G:N7	2.22	0.54
48:5:252:U:H4'	48:5:253:A:O5'	2.08	0.54
9:I:52:LEU:HD22	9:I:163:GLN:HB2	1.88	0.54
10:J:92:ARG:O	10:J:95:ASN:HB2	2.07	0.54
13:M:49:PRO:HG3	13:M:78:THR:HG23	1.90	0.54
2:B:50:LYS:HE2	2:B:328:ILE:HG22	1.88	0.54
19:S:12:ARG:HB3	19:S:24:LEU:HD23	1.87	0.54
48:5:1085:A:H8	48:5:1085:A:H5'	1.72	0.54
48:5:1654:A:H2'	48:5:1655:G:H5''	1.89	0.54
48:5:2439:A:H4'	48:5:2439:A:OP1	2.07	0.54
48:5:916:G:H5'	48:5:917:A:OP1	2.08	0.54
13:M:55:ARG:HD3	19:S:70:THR:OG1	2.08	0.54
18:R:128:LYS:HG2	18:R:128:LYS:O	2.08	0.54
20:T:12:ARG:HD3	20:T:13:TYR:CE1	2.43	0.54
26:Z:115:LYS:NZ	26:Z:119:GLU:OE1	2.32	0.54
48:5:495:G:H2'	48:5:496:C:O4'	2.07	0.54
3:C:35:VAL:HG21	3:C:244:LEU:HD21	1.89	0.54
48:5:3153:U:H4'	48:5:3154:C:H5'	1.90	0.53
48:5:600:G:H8	48:5:600:G:H5''	1.72	0.53
7:G:41:GLN:HG3	7:G:42:PRO:HD2	1.90	0.53
8:H:162:GLN:HB2	8:H:179:ILE:O	2.08	0.53
9:I:38:LYS:CG	9:I:41:ALA:HB2	2.38	0.53
12:L:61:PRO:HD2	12:L:70:ARG:HH21	1.72	0.53
48:5:2425:G:H2'	48:5:2426:U:O4'	2.08	0.53
48:5:2943:G:H2'	48:5:2944:U:O4'	2.09	0.53
48:5:595:G:C8	48:5:609:G:C6	2.96	0.53
2:B:37:ARG:CG	2:B:187:SER:H	2.19	0.53
4:D:202:GLY:O	4:D:206:GLN:HG3	2.08	0.53
26:Z:110:ALA:O	26:Z:114:VAL:HG23	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:84:VAL:HG13	2:B:162:VAL:HB	1.91	0.53
9:I:171:TRP:O	9:I:174:THR:HG22	2.07	0.53
48:5:1655:G:H5''	48:5:1655:G:H8	1.73	0.53
2:B:256:HIS:HA	2:B:257:PRO:C	2.29	0.53
2:B:35:ASP:OD2	2:B:37:ARG:HD2	2.09	0.53
3:C:138:ARG:HH21	3:C:240:PRO:HB2	1.72	0.53
15:O:64[A]:PHE:HE2	15:O:68[A]:ARG:NH1	2.05	0.53
48:5:1716:U:H5'	48:5:1716:U:C6	2.44	0.53
48:5:2257:C:H2'	48:5:2258:U:O4'	2.09	0.53
48:5:3057:U:O2'	48:5:3059:G:OP1	2.27	0.53
48:5:3273:A:C2'	48:5:3274:A:H5'	2.38	0.53
48:5:929:A:H2'	48:5:930:U:C6	2.44	0.53
1:A:149:ARG:NH2	1:A:252:THR:O	2.42	0.53
4:D:152:ARG:HD3	48:5:2663:G:H5'	1.91	0.53
7:G:78:PHE:CD2	7:G:179:ILE:HD13	2.43	0.53
21:U:54:VAL:HG13	21:U:67:SER:HB2	1.90	0.53
24:X:44:PRO:O	24:X:45:LYS:HB2	2.08	0.53
48:5:3330:A:C8	48:5:3330:A:H5''	2.42	0.53
2:B:53:MET:HB2	48:5:3049:A:H5''	1.90	0.53
4:D:260:PHE:CE2	49:7:121:U:H5'	2.44	0.53
5:E:78:ARG:CG	5:E:78:ARG:HH11	2.21	0.53
14:N:31:ARG:HG3	14:N:129:TYR:OH	2.09	0.53
22:V:13:ILE:HD13	22:V:53:SER:HB2	1.89	0.53
48:5:1307:G:C2	48:5:1308:A:C2	2.96	0.53
48:5:1481:A:O2'	48:5:1858:A:C2	2.56	0.53
48:5:2541:U:H4'	48:5:2542:U:OP1	2.09	0.53
48:5:2995:A:H5''	48:5:2996:U:OP2	2.08	0.53
48:5:3354:U:H4'	48:5:3355:U:H5''	1.91	0.53
2:B:332:ARG:NH1	2:B:333:LYS:HD2	2.24	0.53
3:C:91:GLY:O	3:C:94:CYS:HB2	2.09	0.53
6:F:70:LYS:NZ	48:5:519:A:OP2	2.40	0.53
25:Y:52:ARG:HA	25:Y:70:ILE:CG2	2.39	0.53
3:C:183:LYS:HE3	48:5:1386:A:N7	2.24	0.53
48:5:3242:G:H5''	48:5:3245:A:H8	1.74	0.53
48:5:558:U:H4'	48:5:559:A:OP2	2.09	0.53
19:S:46:GLN:HG2	19:S:51:VAL:O	2.09	0.53
24:X:39:LYS:HG3	48:5:13:A:H4'	1.89	0.53
48:5:172:G:H2'	48:5:173:G:H5''	1.91	0.53
48:5:1915:A:H2'	48:5:1916:U:C6	2.43	0.53
48:5:2403:G:N2	48:5:2404:A:N7	2.55	0.53
48:5:2438:A:C6	48:5:2510:U:N3	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:3058:U:H5'	48:5:3059:G:OP1	2.09	0.53
48:5:3165:A:H2'	48:5:3166:C:C6	2.43	0.53
2:B:159:ARG:HG2	2:B:182:GLN:HA	1.91	0.53
2:B:210:GLU:O	2:B:213:GLU:HB2	2.09	0.53
8:H:163:GLN:HB3	8:H:166:ARG:HH21	1.74	0.53
15:O:110[B]:PRO:HB2	15:O:111[B]:PRO:HD2	1.91	0.53
20:T:104:GLU:HG3	20:T:105:PHE:N	2.24	0.53
21:U:47:VAL:C	21:U:49:ASN:H	2.13	0.53
48:5:2778:G:C2'	48:5:2779:A:H5'	2.38	0.53
48:5:2844:C:H5''	48:5:2845:A:OP2	2.09	0.53
15:O:68[A]:ARG:HH12	48:5:2987:A:H5''	1.74	0.53
48:5:2364:G:H22	48:5:2396:G:H1'	1.74	0.52
48:5:2733:A:H2'	48:5:2734:A:O4'	2.09	0.52
48:5:2778:G:H2'	48:5:2779:A:H5'	1.90	0.52
48:5:3218:A:H5''	48:5:3219:G:C5	2.44	0.52
3:C:119:ARG:HA	3:C:122:THR:HG23	1.91	0.52
6:F:96:PRO:O	6:F:99:PRO:HD2	2.09	0.52
14:N:45:PRO:O	14:N:49:ARG:HB2	2.10	0.52
48:5:1192:C:H41	48:5:1302:A:P	2.31	0.52
48:5:1554:U:H4'	48:5:1555:U:OP1	2.08	0.52
48:5:1572:U:HO2'	48:5:1573:G:H8	1.54	0.52
48:5:2568:C:N4	48:5:2574:G:O6	2.42	0.52
49:7:49:G:H4'	49:7:50:U:O5'	2.08	0.52
49:7:64:A:H5'	49:7:65:G:H5''	1.92	0.52
9:I:50:VAL:HG13	9:I:167:LEU:HA	1.91	0.52
18:R:46:LYS:HZ1	48:5:1766:G:H8	1.58	0.52
19:S:155:ARG:NH1	19:S:172:TYR:H	2.06	0.52
48:5:1214:U:H2'	48:5:1215:U:C6	2.43	0.52
26:Z:17:ARG:HB2	48:5:1635:G:O6	2.08	0.52
48:5:1940:G:H21	48:5:3362:A:H8	1.55	0.52
48:5:3380:U:O2'	48:5:3381:U:H5'	2.09	0.52
48:5:420:G:O5'	48:5:420:G:OP1	2.26	0.52
48:5:741:U:H2'	48:5:742:G:O4'	2.09	0.52
2:B:116:ARG:HG2	2:B:175:LYS:HA	1.92	0.52
3:C:191:LYS:HG3	3:C:194:TYR:CZ	2.44	0.52
21:U:58:GLU:HB2	21:U:63:VAL:HA	1.90	0.52
48:5:374:A:N3	48:5:376:G:H5''	2.25	0.52
50:8:66:A:H2'	50:8:67:U:C6	2.45	0.52
3:C:271:LYS:HB2	3:C:274:TYR:HB3	1.91	0.52
48:5:1017:C:H2'	48:5:1017:C:P	2.50	0.52
48:5:152:U:H5''	48:5:153:U:OP2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:72[A]:HIS:CD2	48:5:3008:A:OP1	2.63	0.52
48:5:996:A:H2'	48:5:997:A:O4'	2.09	0.52
2:B:265:ALA:C	2:B:266:ARG:HG2	2.30	0.52
3:C:157:GLU:HG2	3:C:209:TYR:HB2	1.91	0.52
7:G:156:ASP:OD1	7:G:156:ASP:N	2.43	0.52
18:R:163:ARG:O	18:R:167:ARG:HG2	2.09	0.52
19:S:79:VAL:HG21	19:S:106:LEU:HD21	1.90	0.52
26:Z:4:PHE:O	26:Z:5:LEU:HG	2.10	0.52
48:5:1878:G:O2'	48:5:1879:A:OP1	2.25	0.52
48:5:644:G:H2'	48:5:2372:A:N7	2.24	0.52
48:5:2590:A:H2'	48:5:2591:A:O5'	2.09	0.52
48:5:725:G:C2'	48:5:726:G:H5''	2.39	0.52
17:Q:66:ARG:NH2	48:5:744:A:OP1	2.42	0.52
7:G:105:LYS:HG3	7:G:109:LEU:HD23	1.91	0.52
7:G:129:PRO:HB3	48:5:121:A:C2	2.45	0.52
8:H:48:VAL:HG21	8:H:52:LEU:HD13	1.92	0.52
10:J:55:ARG:HD3	48:5:353:G:N7	107.37	0.52
12:L:64:LYS:HD3	12:L:65:TYR:CE2	2.45	0.52
23:W:63:ILE:O	23:W:65:GLU:N	2.36	0.52
48:5:1655:G:C8	48:5:1655:G:C5'	2.91	0.52
1:A:193:ARG:NH2	48:5:2181:C:H5''	2.25	0.52
48:5:2209:U:H4'	48:5:2210:G:OP1	2.08	0.52
3:C:112:LYS:HG2	48:5:790:U:H4'	1.91	0.52
12:L:76:THR:O	12:L:80:VAL:HG23	2.10	0.52
48:5:1251:A:H2'	48:5:1252:A:O4'	2.10	0.52
48:5:419:G:O3'	48:5:420:G:OP2	2.24	0.52
48:5:428:A:H2'	48:5:429:U:C6	2.45	0.52
1:A:143:GLU:O	1:A:145:LYS:N	2.42	0.52
1:A:187:HIS:ND1	1:A:190:ARG:NH1	2.58	0.52
2:B:147:GLU:OE1	2:B:150:ARG:NH2	2.42	0.52
8:H:137:SER:HB2	8:H:143:GLU:HB3	1.91	0.52
48:5:1876:U:H6	48:5:1876:U:H5''	1.75	0.52
48:5:2896:A:H8	48:5:2896:A:H5''	1.75	0.51
48:5:409:A:H2	48:5:1441:G:N3	2.08	0.51
48:5:621:A:H2'	48:5:622:A:C8	2.45	0.51
8:H:162:GLN:HG3	8:H:163:GLN:N	2.25	0.51
12:L:37:ASN:O	12:L:41:THR:HG23	2.09	0.51
14:N:73:ARG:O	14:N:75:VAL:N	2.38	0.51
15:O:15[A]:LEU:HD11	15:O:129[A]:LEU:HD13	1.92	0.51
48:5:2523:A:H4'	48:5:2524:A:OP2	2.09	0.51
6:F:151:ARG:NH1	6:F:244:ASN:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:46:ILE:HD11	26:Z:49:TYR:CD2	2.45	0.51
48:5:2622:C:H5''	48:5:2623:G:OP2	2.10	0.51
48:5:385:A:O2'	48:5:386:A:H5'	2.10	0.51
48:5:847:A:H2'	48:5:848:A:C8	2.45	0.51
20:T:130:ARG:O	48:5:1098:A:O2'	2.20	0.51
48:5:65:A:H2'	48:5:110:G:N7	2.25	0.51
5:E:68:PRO:HG2	5:E:71:VAL:CG2	2.40	0.51
16:P:67:ILE:HD11	48:5:1447:G:H3'	1.91	0.51
48:5:1875:G:C2'	48:5:1876:U:H5''	2.40	0.51
48:5:2573:G:H2'	48:5:2574:G:O4'	2.09	0.51
48:5:2970:C:HO2'	48:5:2971:A:P	2.33	0.51
8:H:44:THR:HG22	48:5:3186:A:C2	2.45	0.51
2:B:283:TYR:HB3	2:B:323:MET:HE2	1.92	0.51
3:C:311:HIS:NE2	3:C:314:LYS:HA	2.24	0.51
13:M:13:ARG:NH1	13:M:65:LEU:O	2.43	0.51
14:N:47:LYS:HE3	14:N:51:LEU:HD11	1.90	0.51
48:5:243:G:O2'	48:5:244:G:H5'	2.10	0.51
48:5:2660:G:O3'	48:5:2749:G:N2	2.44	0.51
3:C:144:LYS:HZ2	3:C:144:LYS:H	1.58	0.51
8:H:1:MET:O	8:H:2:LYS:HB2	2.11	0.51
48:5:2546:C:H2'	48:5:2547:A:C8	2.46	0.51
48:5:3273:A:O2'	48:5:3274:A:H5'	2.11	0.51
48:5:435:C:H2'	48:5:436:A:O4'	2.11	0.51
48:5:508:U:H2'	48:5:509:U:C6	2.46	0.51
1:A:140:ASN:OD1	1:A:142:ASP:HB3	2.10	0.51
4:D:55:PHE:CZ	4:D:158:ARG:HB3	2.45	0.51
7:G:215:VAL:O	7:G:219:ASP:HB2	2.10	0.51
18:R:151:ARG:O	18:R:155:LEU:HG	2.11	0.51
48:5:1595:U:C2	48:5:1596:C:C5	2.99	0.51
48:5:839:C:H1'	48:5:1724:U:OP1	2.11	0.51
48:5:3000:A:H2'	48:5:3001:C:C6	2.45	0.51
49:7:3:U:H2'	49:7:4:U:H6	1.75	0.51
5:E:21:THR:HB	48:5:612:U:OP1	2.11	0.51
26:Z:88:ASP:O	26:Z:121:ARG:NH2	2.44	0.51
26:Z:95:VAL:HG11	26:Z:110:ALA:HA	1.93	0.51
48:5:2555:G:H5'	48:5:2556:C:OP2	2.10	0.51
2:B:153:LYS:HG2	2:B:154:TYR:CZ	2.46	0.51
6:F:158:LYS:HD2	6:F:159:GLN:CA	2.36	0.51
9:I:60:LEU:HD11	9:I:135:ILE:HD13	1.93	0.51
10:J:13:LYS:HE2	10:J:132:ASN:HD21	1.76	0.51
10:J:166:LYS:C	10:J:168:ASP:H	2.13	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:29:THR:HA	16:P:32:THR:HG23	1.93	0.51
16:P:71:ALA:O	16:P:74:LYS:HB2	2.10	0.51
17:Q:166:LEU:O	17:Q:167:SER:HB2	2.11	0.51
17:Q:170:ARG:HG3	17:Q:170:ARG:O	2.11	0.51
24:X:132:ALA:O	24:X:136:ALA:N	2.33	0.51
48:5:1258:U:O2	48:5:1260:A:H8	1.92	0.50
17:Q:176:ARG:HD2	48:5:2762:A:O2'	2.12	0.50
2:B:39:LYS:HB2	2:B:40:PRO:CD	2.41	0.50
3:C:286:VAL:HG11	17:Q:31:LYS:HD2	1.93	0.50
5:E:98:VAL:HA	5:E:101:PHE:CD2	2.45	0.50
14:N:184:LYS:C	14:N:186:GLY:H	2.13	0.50
15:O:36[A]:VAL:HB	15:O:108[A]:ILE:HB	1.92	0.50
24:X:82:LEU:HD11	24:X:135:ILE:HD12	1.92	0.50
48:5:2263:C:C2'	48:5:2264:U:H5'	2.42	0.50
48:5:2439:A:C2'	48:5:2440:G:H5''	2.40	0.50
6:F:60:ARG:HD2	48:5:3275:U:C4	69.83	0.50
48:5:787:G:H2'	48:5:788:C:C6	2.46	0.50
3:C:126:ILE:HG13	3:C:238:LEU:HD13	1.92	0.50
3:C:181:VAL:HG21	3:C:224:GLY:HA3	1.92	0.50
4:D:17:GLN:HB2	20:T:20:ARG:HG2	1.93	0.50
6:F:223:PHE:HA	6:F:227:GLY:HA2	1.93	0.50
15:O:127[A]:LEU:HD11	19:S:168:PRO:HG3	1.94	0.50
17:Q:122:ILE:HD11	17:Q:130:ARG:CZ	2.41	0.50
21:U:92:TRP:O	21:U:108:TYR:N	2.44	0.50
26:Z:67:LYS:HE2	26:Z:115:LYS:HZ1	1.75	0.50
26:Z:65:ARG:HG3	26:Z:65:ARG:HH11	1.76	0.50
3:C:188:ARG:NH1	48:5:1382:G:OP2	2.44	0.50
48:5:1810:A:H2'	48:5:1811:G:C8	2.46	0.50
17:Q:184:PHE:CG	48:5:2730:G:H4'	2.46	0.50
48:5:2836:C:C5	48:5:2852:C:N4	2.71	0.50
48:5:3241:G:H2'	48:5:3245:A:H8	1.76	0.50
48:5:3274:A:H3'	48:5:3275:U:H5''	1.94	0.50
48:5:3288:G:HO2'	48:5:3289:G:H8	1.55	0.50
48:5:715:A:H4'	48:5:716:A:OP1	2.10	0.50
1:A:44:ILE:HD12	1:A:44:ILE:H	1.76	0.50
15:O:61[A]:ALA:HB1	15:O:66[A]:LYS:HG3	1.92	0.50
17:Q:46:LYS:O	17:Q:50:LYS:HG3	2.12	0.50
19:S:26:ARG:NH1	20:T:150:THR:HG21	2.26	0.50
20:T:32:LYS:HE3	20:T:98:HIS:HD2	1.75	0.50
23:W:105:ARG:HG2	23:W:109:LEU:HD11	1.93	0.50
48:5:1876:U:H6	48:5:1876:U:C5'	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:209:A:H4'	48:5:211:A:N7	2.25	0.50
1:A:152:SER:HB3	48:5:2157:G:O6	2.11	0.50
2:B:169:THR:CG2	2:B:171:LEU:H	2.18	0.50
3:C:93:MET:HB2	48:5:658:G:N2	2.26	0.50
5:E:47:PHE:O	5:E:50:LYS:HB2	2.11	0.50
6:F:157:ASN:O	6:F:159:GLN:N	2.39	0.50
7:G:29:SER:O	7:G:31:PRO:HD3	2.11	0.50
10:J:143:ARG:NH2	49:7:5:G:OP1	2.45	0.50
21:U:90:ARG:O	21:U:91:ASP:HB2	2.10	0.50
48:5:1176:C:H2'	48:5:1177:G:N2	2.26	0.50
48:5:1295:G:H2'	48:5:1296:C:C6	2.47	0.50
48:5:1576:G:H5'	48:5:1577:G:OP2	2.12	0.50
48:5:1638:A:H5''	48:5:1639:C:OP2	2.10	0.50
48:5:407:A:C2	50:8:17:A:H1'	2.47	0.50
3:C:283:THR:HG21	3:C:288:ARG:NH2	2.26	0.50
15:O:116[A]:LYS:HG3	15:O:117[A]:ARG:N	2.26	0.50
18:R:167:ARG:HB3	18:R:167:ARG:HH11	1.74	0.50
19:S:38:LYS:HD2	19:S:58:ILE:HD13	1.94	0.50
48:5:1312:C:H5''	48:5:1313:G:OP2	2.11	0.50
48:5:249:U:OP2	48:5:249:U:H2'	2.11	0.50
48:5:2927:C:H2'	48:5:2928:C:C6	2.47	0.50
48:5:308:A:H5'	48:5:2223:A:O2'	2.11	0.50
48:5:736:A:H2'	48:5:737:G:O4'	2.12	0.50
48:5:1831:U:O2'	50:8:114:G:OP1	2.19	0.50
1:A:220:GLY:O	1:A:221:LYS:HG3	2.11	0.50
5:E:89:THR:HG21	13:M:115:PHE:HB2	1.94	0.50
10:J:139:THR:HG22	10:J:146:GLY:O	2.12	0.50
13:M:134:ALA:O	13:M:136:ALA:N	2.44	0.50
14:N:190:THR:O	14:N:194:GLN:HG2	2.11	0.50
15:O:61[A]:ALA:HA	15:O:70[A]:PRO:HD2	1.94	0.50
26:Z:80:LEU:O	26:Z:82:PRO:HD3	2.11	0.50
48:5:1200:A:H5'	48:5:1201:C:O5'	2.10	0.50
48:5:200:C:H5'	48:5:221:A:C2	2.46	0.50
48:5:3227:A:C2'	48:5:3228:C:H5'	2.41	0.50
2:B:315:GLY:HA2	48:5:3379:C:H4'	1.93	0.50
10:J:104:PHE:O	10:J:127:PHE:HB2	2.11	0.50
24:X:38:LEU:O	24:X:39:LYS:HB2	2.11	0.50
26:Z:124:ALA:O	26:Z:126:LYS:N	2.45	0.50
15:O:59[A]:ARG:NH1	48:5:1307:G:OP2	2.45	0.50
8:H:168:ARG:HD2	48:5:2894:C:OP1	2.12	0.50
48:5:920:A:OP1	48:5:922:U:C5	2.63	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:70:ARG:NH2	48:5:2522:G:C6	2.78	0.50
15:O:27[A]:LEU:O	15:O:101[A]:ARG:NH1	2.45	0.50
19:S:71:LYS:NZ	48:5:563:U:OP1	2.45	0.50
20:T:17:ARG:HH11	20:T:17:ARG:HG2	1.76	0.50
48:5:398:A:O2'	48:5:1416:C:OP1	2.20	0.50
48:5:707:U:H2'	48:5:708:G:H5''	1.93	0.50
48:5:94:G:H2'	48:5:95:A:C8	2.47	0.50
48:5:59:G:H2'	50:8:33:A:O2'	2.12	0.50
1:A:225:ILE:O	1:A:238:ILE:O	2.29	0.50
3:C:237:GLN:O	3:C:246:ARG:HG3	2.12	0.50
5:E:55:LEU:HD12	5:E:64:LEU:HD13	1.94	0.50
6:F:80:GLN:HG3	20:T:136:ARG:CB	2.41	0.50
10:J:54:VAL:HG23	10:J:57:PHE:HB2	1.93	0.50
12:L:153:ASP:OD1	12:L:157:ARG:HD3	2.12	0.50
48:5:1238:C:O2'	48:5:1239:C:OP1	2.09	0.49
48:5:1717:U:H2'	48:5:1718:G:C8	2.47	0.49
48:5:662:U:H2'	48:5:663:C:C6	2.47	0.49
2:B:250:ALA:HB1	48:5:2947:G:N3	2.27	0.49
3:C:302:ALA:HB2	17:Q:39:ARG:NH1	2.26	0.49
3:C:48:GLN:NE2	48:5:336:A:O2'	2.44	0.49
7:G:161:GLU:OE1	14:N:26:ARG:NH2	2.32	0.49
48:5:2249:G:H3'	48:5:2249:G:C8	2.46	0.49
50:8:145:U:H2'	50:8:146:U:C6	2.47	0.49
2:B:150:ARG:HG2	2:B:150:ARG:NH1	2.26	0.49
3:C:98:ARG:HD2	3:C:99:MET:O	2.13	0.49
10:J:152:HIS:O	10:J:153:LYS:HB3	2.11	0.49
10:J:15:GLU:HB3	10:J:130:VAL:HG22	1.93	0.49
12:L:154:VAL:HG23	12:L:157:ARG:HG2	1.94	0.49
15:O:65[A]:ASN:HB3	15:O:68[A]:ARG:HD2	1.94	0.49
16:P:109:ALA:HA	16:P:112:LEU:HD22	1.94	0.49
48:5:1944:U:H2'	48:5:1945:A:C8	2.47	0.49
48:5:2397:A:OP1	48:5:2398:A:C5'	2.60	0.49
48:5:439:C:H4'	48:5:440:A:OP1	2.12	0.49
48:5:959:C:OP2	48:5:960:U:H5	1.95	0.49
1:A:42:ARG:HH21	48:5:2799:A:H1'	105.49	0.49
2:B:339:ARG:HG2	2:B:340:LYS:O	2.12	0.49
3:C:48:GLN:HG3	48:5:337:G:H4'	1.93	0.49
15:O:37[A]:ARG:HG3	15:O:108[A]:ILE:HG22	1.94	0.49
25:Y:32:SER:HA	25:Y:49:PRO:HA	1.93	0.49
48:5:1018:G:H2'	48:5:1019:G:O4'	2.13	0.49
48:5:1131:G:C4	48:5:2373:A:C2	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:1243:G:OP2	48:5:1243:G:H8	1.95	0.49
12:L:101:ARG:HA	48:5:76:G:O6	2.13	0.49
4:D:152:ARG:HH11	4:D:152:ARG:CG	2.25	0.49
7:G:37:GLY:HA3	48:5:2550:U:C6	2.48	0.49
48:5:132:C:C4	48:5:134:U:H5	2.30	0.49
48:5:135:C:H4'	48:5:136:G:OP2	2.12	0.49
48:5:2211:U:C5	48:5:2234:G:O6	2.59	0.49
48:5:2960:C:H2'	48:5:2961:G:C8	2.48	0.49
48:5:3259:U:H5'	48:5:3259:U:C6	2.48	0.49
50:8:26:U:H2'	50:8:27:U:C6	2.47	0.49
50:8:27:U:H6	50:8:27:U:O5'	1.95	0.49
2:B:18:PRO:HG2	2:B:20:LYS:HD2	1.95	0.49
6:F:155:LYS:C	6:F:156:ILE:HG12	2.32	0.49
7:G:150:LEU:HD22	7:G:151:VAL:H	1.77	0.49
15:O:171[A]:LYS:O	15:O:175[A]:THR:HG22	2.12	0.49
23:W:82:ILE:HG22	23:W:82:ILE:O	2.13	0.49
48:5:256:G:H2'	48:5:257:U:C6	2.47	0.49
2:B:255:TRP:CD1	48:5:2395:G:H5''	2.47	0.49
2:B:361:THR:HG22	2:B:371:GLN:HB3	1.94	0.49
5:E:40:LEU:HD13	5:E:84:VAL:HG11	1.94	0.49
10:J:10:ARG:HA	10:J:134:PRO:HD2	1.94	0.49
12:L:168:ARG:NH2	48:5:769:G:O2'	2.45	0.49
15:O:62[B]:THR:HG21	15:O:68[B]:ARG:HG3	1.95	0.49
48:5:1085:A:H5''	48:5:1085:A:H8	1.78	0.49
48:5:1643:A:H4'	48:5:1822:C:H5'	1.95	0.49
48:5:217:U:H2'	48:5:218:G:OP1	2.13	0.49
48:5:36:C:H2'	48:5:37:U:H5'	1.94	0.49
50:8:79:A:OP1	50:8:79:A:H4'	2.11	0.49
10:J:16:LYS:NZ	48:5:2684:C:OP1	2.45	0.49
18:R:80:LYS:HE2	48:5:1940:G:OP1	2.13	0.49
22:V:80:ARG:HD3	22:V:117:PRO:O	2.13	0.49
48:5:2206:G:O2'	48:5:2207:A:H5'	2.13	0.49
48:5:3346:U:H2'	48:5:3347:A:O4'	2.13	0.49
49:7:23:A:H2'	49:7:24:A:C8	2.47	0.49
4:D:218:ARG:NH1	49:7:31:U:H4'	2.27	0.49
13:M:106:ARG:NH1	13:M:106:ARG:HB2	4.44	0.49
16:P:139:TYR:CE2	48:5:2355:G:H5'	2.47	0.49
48:5:1036:A:H2'	48:5:1037:C:O4'	2.13	0.49
48:5:873:C:H4'	48:5:874:U:OP2	2.12	0.49
7:G:204:ARG:O	7:G:207:ASP:HB2	2.12	0.49
8:H:19:SER:HB3	13:M:6:ILE:H	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:60[B]:LYS:NZ	48:5:1307:G:H5''	2.28	0.49
23:W:35:LYS:O	23:W:39:LEU:HD22	2.13	0.49
48:5:1724:U:O2	48:5:1725:C:C2	2.66	0.49
48:5:2702:A:H5'	48:5:2704:A:O4'	2.13	0.49
48:5:3013:U:H2'	48:5:3014:U:C6	2.48	0.49
3:C:141:ARG:CZ	3:C:180:LYS:HD3	2.43	0.49
6:F:22:THR:HA	6:F:25:GLN:HG2	1.94	0.49
10:J:81:GLU:HA	10:J:84:LEU:HD12	1.95	0.49
15:O:108[A]:ILE:HD11	15:O:113[A]:ASP:HA	1.95	0.49
16:P:122:ALA:HB3	16:P:143:PRO:HB2	1.94	0.49
19:S:155:ARG:NH1	19:S:172:TYR:N	2.61	0.49
24:X:92:LYS:HG3	48:5:1831:U:P	2.53	0.49
48:5:1567:U:H1'	48:5:1570:U:C5	2.45	0.48
20:T:92:ARG:NH1	48:5:2736:A:OP1	2.42	0.48
20:T:69:LYS:HE3	48:5:2750:U:OP2	2.13	0.48
1:A:202:VAL:HG23	1:A:211:HIS:HB3	1.95	0.48
2:B:296:THR:HG21	2:B:357:LYS:HA	1.95	0.48
7:G:57:ARG:O	7:G:61:GLN:HG3	2.13	0.48
9:I:100:ASN:O	9:I:101:LYS:HB3	2.12	0.48
23:W:105:ARG:HG2	23:W:105:ARG:HH11	1.78	0.48
48:5:1819:U:H2'	48:5:1820:U:H5'	1.93	0.48
48:5:2228:A:H5''	48:5:2228:A:H8	1.78	0.48
48:5:528:U:H2'	48:5:529:A:H8	1.78	0.48
3:C:312:VAL:HG21	48:5:610:G:C8	2.47	0.48
48:5:690:A:H4'	48:5:691:A:OP1	2.13	0.48
9:I:22:TYR:CZ	48:5:1048:A:H2'	2.48	0.48
12:L:16:LYS:O	12:L:17:HIS:HB2	2.13	0.48
20:T:14:MET:CE	20:T:55:LYS:HB2	2.40	0.48
22:V:13:ILE:CD1	22:V:53:SER:HB2	2.42	0.48
25:Y:39:LEU:HD21	25:Y:107:THR:O	2.13	0.48
48:5:1017:C:H2'	48:5:1017:C:OP1	2.13	0.48
48:5:1097:G:H4'	48:5:1098:A:O5'	2.12	0.48
48:5:1307:G:H1'	48:5:1308:A:N7	2.28	0.48
48:5:547:G:C5	48:5:548:G:H1'	2.48	0.48
2:B:53:MET:HE3	48:5:3048:A:C5'	2.40	0.48
7:G:97:TYR:O	7:G:132:VAL:HG13	2.13	0.48
9:I:38:LYS:HG3	9:I:41:ALA:HB2	1.95	0.48
12:L:131:LYS:HD3	12:L:131:LYS:H	1.77	0.48
23:W:120:LYS:HA	23:W:123:ARG:HD2	1.93	0.48
48:5:1470:U:H2'	48:5:1471:U:C6	2.49	0.48
48:5:3335:A:H8	48:5:3335:A:H5'	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:998:A:O2'	48:5:999:G:H5'	2.12	0.48
2:B:37:ARG:HA	2:B:186:GLY:HA2	1.94	0.48
13:M:125:LYS:HD2	48:5:2897:A:H5''	93.57	0.48
22:V:2:SER:O	22:V:57:MET:N	2.42	0.48
26:Z:53:VAL:HA	26:Z:57:HIS:HD2	1.76	0.48
4:D:15:ARG:CZ	48:5:1003:A:H1'	2.43	0.48
20:T:129:LYS:HE3	48:5:1097:G:H5'	1.94	0.48
48:5:1222:G:OP2	48:5:1222:G:H8	1.97	0.48
8:H:171:ASP:HA	48:5:2899:C:C5	2.48	0.48
48:5:629:U:H2'	48:5:630:A:C8	2.48	0.48
2:B:53:MET:CE	48:5:3048:A:C5'	2.91	0.48
8:H:103:ILE:HD11	8:H:134:ILE:CG2	2.44	0.48
9:I:9:TYR:CG	9:I:97:LEU:HD13	2.48	0.48
12:L:100:ARG:O	12:L:101:ARG:HB3	2.14	0.48
26:Z:54:THR:HG22	26:Z:57:HIS:CE1	2.48	0.48
48:5:3245:A:H2	48:5:3246:G:N1	2.12	0.48
48:5:996:A:C2	48:5:1054:A:C4	3.01	0.48
50:8:156:U:HO2'	50:8:157:U:P	2.33	0.48
1:A:242:ARG:NH1	1:A:246:LEU:HD12	2.28	0.48
2:B:39:LYS:HB2	2:B:40:PRO:HD2	1.96	0.48
20:T:7:TYR:CZ	20:T:54:HIS:HB2	2.49	0.48
48:5:2263:C:H2'	48:5:2264:U:H5'	1.96	0.48
50:8:66:A:H2'	50:8:67:U:H6	1.78	0.48
1:A:204:MET:HG2	48:5:914:A:C2	2.49	0.48
4:D:265:TYR:O	4:D:269:SER:HB3	2.13	0.48
15:O:42[B]:ASN:OD1	15:O:125[B]:ARG:HD3	2.13	0.48
17:Q:100:THR:CG2	17:Q:120:GLU:HB3	2.43	0.48
18:R:154:ALA:O	18:R:158:GLU:HG2	2.13	0.48
18:R:167:ARG:HB3	18:R:167:ARG:NH1	2.28	0.48
20:T:17:ARG:HD2	20:T:47:SER:HB3	1.96	0.48
4:D:140:ARG:NH1	48:5:1080:A:OP2	2.46	0.48
48:5:1081:U:O2'	48:5:1082:U:O5'	2.29	0.48
48:5:112:U:O2'	48:5:113:C:OP2	2.24	0.48
48:5:508:U:H2'	48:5:509:U:H6	1.79	0.48
48:5:653:A:H5'	48:5:2361:A:H5''	1.95	0.48
4:D:289:LYS:O	4:D:292:ALA:HB3	2.14	0.48
6:F:214:TRP:CZ2	6:F:219:LYS:HE3	2.49	0.48
10:J:100:GLY:O	10:J:159:THR:HG21	2.13	0.48
10:J:92:ARG:CG	10:J:92:ARG:HH11	2.25	0.48
14:N:10:LEU:HD23	14:N:10:LEU:HA	1.71	0.48
15:O:110[A]:PRO:HA	15:O:113[A]:ASP:OD1	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:63:ILE:C	24:X:63:ILE:HD13	2.34	0.48
24:X:64:GLU:OE2	24:X:87:SER:HA	2.14	0.48
26:Z:121:ARG:HH11	26:Z:121:ARG:CG	2.27	0.48
48:5:217:U:C2'	48:5:218:G:OP1	2.62	0.48
48:5:677:A:H4'	48:5:678:G:O5'	2.14	0.48
4:D:283:ALA:O	4:D:286:VAL:HB	2.14	0.48
5:E:54:TYR:HA	5:E:65:ILE:CD1	2.44	0.48
17:Q:96:PHE:CG	17:Q:97:PRO:HD2	2.49	0.48
48:5:1573:G:C5	48:5:1574:C:H1'	2.48	0.48
48:5:181:U:H2'	48:5:182:U:O4'	2.14	0.48
50:8:130:C:H2'	50:8:131:A:C8	2.49	0.48
4:D:110:LEU:HA	4:D:113:LEU:HB2	1.96	0.48
4:D:148:ILE:HG23	4:D:151:GLN:HB3	1.96	0.48
10:J:16:LYS:HG3	10:J:130:VAL:HG13	1.96	0.48
15:O:65[B]:ASN:O	15:O:68[B]:ARG:HG2	2.14	0.48
23:W:126:GLU:OE2	23:W:129:LYS:NZ	2.47	0.48
26:Z:65:ARG:CG	26:Z:65:ARG:HH11	2.27	0.48
48:5:726:G:H8	48:5:726:G:C5'	2.21	0.47
9:I:174:THR:O	9:I:175:ASN:HB2	2.13	0.47
9:I:19:LYS:HG3	9:I:26:VAL:HG22	1.96	0.47
13:M:54:PRO:O	13:M:56:GLN:NE2	2.36	0.47
21:U:23:THR:HA	21:U:28:PHE:HB3	1.95	0.47
48:5:2641:U:H5''	48:5:2642:A:OP1	2.14	0.47
3:C:300:ARG:NH1	3:C:300:ARG:HG2	2.24	0.47
6:F:80:GLN:HG3	20:T:136:ARG:HB3	1.95	0.47
9:I:3:ARG:CZ	9:I:63:GLU:HG3	2.44	0.47
15:O:159[B]:LYS:NZ	48:5:3243:A:OP1	2.46	0.47
17:Q:62:VAL:O	17:Q:87:VAL:HA	2.14	0.47
23:W:127:LYS:O	23:W:131:ALA:N	2.45	0.47
48:5:687:U:O2'	48:5:688:G:H5'	2.14	0.47
2:B:35:ASP:OD1	2:B:184:ASN:O	2.32	0.47
3:C:295:ILE:O	3:C:299:ILE:HG12	2.14	0.47
3:C:44:LYS:HB3	3:C:47:ARG:NH1	2.28	0.47
4:D:270:LYS:HG3	4:D:273:ARG:HB2	1.96	0.47
7:G:230:LYS:O	7:G:230:LYS:HG3	2.14	0.47
48:5:1204:A:C2'	48:5:1205:A:H5'	2.45	0.47
48:5:1256:G:H2'	48:5:1257:C:C6	2.49	0.47
48:5:725:G:H3'	48:5:726:G:H5''	1.96	0.47
48:5:731:U:H2'	48:5:732:C:H6	1.79	0.47
50:8:82:U:H1'	50:8:87:G:H5'	1.95	0.47
2:B:247:ARG:HG3	48:5:1889:G:OP1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:138:GLN:HA	14:N:143:ARG:HD2	1.95	0.47
18:R:95:TRP:CZ2	18:R:99:LEU:HG	2.49	0.47
19:S:52:LYS:NZ	49:7:100:C:P	2.87	0.47
20:T:32:LYS:HE3	20:T:98:HIS:CD2	2.49	0.47
48:5:1765:U:H2'	48:5:1766:G:O4'	2.15	0.47
48:5:191:U:H2'	48:5:192:C:C6	2.49	0.47
48:5:253:A:O2'	48:5:254:A:H8	1.97	0.47
48:5:3177:G:O2'	48:5:3179:U:OP1	2.22	0.47
13:M:13:ARG:NH2	48:5:3206:C:N3	2.61	0.47
1:A:209:HIS:CD2	1:A:211:HIS:H	2.29	0.47
2:B:153:LYS:HG2	2:B:154:TYR:CE2	2.49	0.47
2:B:92:TYR:HB2	2:B:157:VAL:HG22	1.95	0.47
16:P:105:LYS:HB3	16:P:107:LEU:HD13	1.97	0.47
24:X:67:ILE:HB	24:X:83:VAL:HG12	1.97	0.47
48:5:1481:A:C2'	48:5:1858:A:N3	2.78	0.47
48:5:1879:A:H2'	48:5:1879:A:N3	2.29	0.47
48:5:735:A:O2'	48:5:736:A:OP1	2.30	0.47
49:7:106:U:H2'	49:7:107:C:C6	2.50	0.47
2:B:53:MET:HE3	48:5:3047:U:O2'	2.14	0.47
4:D:68:THR:HG22	4:D:70:THR:N	2.30	0.47
7:G:169:LEU:HD22	7:G:173:MET:HG2	1.97	0.47
12:L:87:ALA:O	12:L:91:ARG:HG3	2.14	0.47
16:P:30:ARG:HA	16:P:119:VAL:HG11	1.96	0.47
24:X:131:ASP:O	24:X:135:ILE:HG22	2.15	0.47
48:5:1481:A:H2'	48:5:1858:A:N3	2.30	0.47
48:5:2257:C:H6	48:5:2257:C:O5'	1.98	0.47
48:5:3241:G:H2'	48:5:3245:A:C8	2.49	0.47
1:A:242:ARG:O	48:5:2154:U:H5''	2.14	0.47
2:B:53:MET:HG2	2:B:77:THR:HB	1.97	0.47
4:D:148:ILE:HG13	4:D:159:VAL:HG11	1.96	0.47
7:G:244:ALA:HA	7:G:247:ASP:HB2	1.95	0.47
18:R:121:HIS:HE1	48:5:1719:G:N7	2.13	0.47
21:U:56:VAL:HG22	21:U:65:VAL:HG22	1.96	0.47
1:A:10:LYS:HE2	48:5:1374:G:O6	82.98	0.47
48:5:173:G:O2'	48:5:174:C:H6	1.96	0.47
48:5:1816:A:O2'	48:5:1817:G:H5''	2.14	0.47
48:5:2664:C:O2'	48:5:2665:U:H5'	2.15	0.47
48:5:3242:G:H5''	48:5:3245:A:C8	2.50	0.47
48:5:663:C:H2'	48:5:664:U:C6	2.50	0.47
3:C:329:PRO:HB2	3:C:330:TYR:H	1.39	0.47
8:H:111:PHE:HE1	12:L:89:TYR:HB2	176.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:42:TRP:O	19:S:46:GLN:HG3	2.15	0.47
26:Z:23:VAL:HG12	26:Z:45:GLY:HA3	1.96	0.47
48:5:1541:G:C2'	48:5:1542:G:O5'	2.63	0.47
48:5:1561:G:O2'	48:5:1562:C:OP2	2.26	0.47
48:5:1701:C:H2'	48:5:1702:U:O4'	2.15	0.47
48:5:3121:U:H1'	48:5:3122:A:H5''	1.96	0.47
48:5:3242:G:N2	48:5:3245:A:H5''	2.30	0.47
3:C:33:ASP:O	3:C:37:THR:HG23	2.14	0.47
4:D:122:VAL:HG23	4:D:123:GLU:N	2.30	0.47
10:J:106:ILE:CD1	10:J:125:MET:HG2	2.45	0.47
11:K:125:UNK:O	11:K:126:UNK:C	2.62	0.47
14:N:119:TYR:OH	14:N:131:GLU:OE1	2.16	0.47
14:N:145:ASP:OD1	14:N:147:ARG:HB2	2.15	0.47
15:O:65[B]:ASN:HB3	15:O:68[B]:ARG:HD3	1.97	0.47
24:X:24:LEU:HB3	24:X:25:LYS:H	1.46	0.47
48:5:128:G:H2'	48:5:129:U:O4'	2.14	0.47
48:5:1565:G:N2	48:5:1566:A:H1'	2.30	0.47
48:5:1621:A:H2'	48:5:1622:U:C6	2.50	0.47
48:5:1658:G:H2'	48:5:1659:U:C6	2.50	0.47
48:5:1750:A:H4'	48:5:1751:G:H5'	1.95	0.47
48:5:2111:G:H4'	48:5:2112:U:OP2	2.15	0.47
48:5:2520:A:H2'	48:5:2521:U:C6	2.50	0.47
14:N:50:ARG:HH11	48:5:267:G:H4'	1.80	0.47
48:5:2805:G:N3	48:5:2967:A:H2	2.13	0.47
48:5:3288:G:O2'	48:5:3289:G:H8	1.97	0.47
2:B:347:SER:HB3	2:B:350:ALA:N	2.26	0.47
3:C:78:GLY:O	3:C:85:SER:HB3	2.15	0.47
7:G:71:VAL:HG13	7:G:235:GLY:N	2.30	0.47
23:W:122:ALA:O	23:W:125:ALA:HB3	2.15	0.47
48:5:1355:A:H1'	48:5:1356:U:OP2	2.14	0.47
48:5:2102:U:H2'	48:5:2103:U:C6	2.50	0.47
48:5:2440:G:O2'	48:5:2441:A:P	2.73	0.47
48:5:2537:U:HO2'	48:5:2538:U:P	2.36	0.47
48:5:2816:G:C8	48:5:2869:U:H3'	2.50	0.47
48:5:2898:G:OP2	48:5:2899:C:H5'	2.15	0.47
48:5:2946:A:C5'	48:5:2947:G:H5'	2.45	0.47
48:5:322:U:H5''	48:5:323:A:OP1	2.14	0.47
48:5:380:U:H2'	48:5:381:U:C6	2.50	0.47
48:5:792:G:H2'	48:5:793:C:C6	2.50	0.47
50:8:84:C:H5'	50:8:85:G:H5'	1.97	0.47
1:A:72:ARG:HG3	1:A:72:ARG:HH11	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:150:LEU:HD13	3:C:249:ILE:HG12	1.96	0.47
6:F:219:LYS:HA	6:F:228:SER:HB2	1.97	0.47
7:G:106:LYS:O	7:G:110:THR:HG23	2.15	0.47
7:G:150:LEU:HD22	7:G:151:VAL:N	2.29	0.47
48:5:1085:A:C8	48:5:1085:A:H5'	2.49	0.46
48:5:1313:G:H2'	48:5:1314:C:H6	1.80	0.46
48:5:1352:A:H1'	48:5:1353:U:H5'	1.97	0.46
48:5:1819:U:C2'	48:5:1820:U:H5'	2.45	0.46
5:E:162:SER:HB2	48:5:3219:G:H1	1.79	0.46
48:5:441:U:O2'	48:5:442:G:O4'	2.22	0.46
48:5:818:C:H2'	48:5:819:U:O4'	2.14	0.46
7:G:134:TYR:CG	7:G:190:VAL:HG11	2.50	0.46
8:H:103:ILE:HD11	8:H:134:ILE:HG21	1.97	0.46
12:L:168:ARG:O	12:L:172:LEU:HG	2.15	0.46
12:L:89:TYR:CE2	12:L:93:ILE:HD11	2.50	0.46
14:N:14:LYS:HA	14:N:19:LEU:HD23	1.97	0.46
16:P:84:PRO:HB2	16:P:87:SER:HB2	1.96	0.46
7:G:124:ASP:HA	48:5:120:G:H22	1.79	0.46
48:5:1464:G:N2	48:5:1466:G:H3'	2.31	0.46
48:5:123:A:C6	48:5:150:A:C5	3.04	0.46
48:5:2514:U:C6	48:5:2514:U:OP1	2.68	0.46
48:5:620:U:H6	48:5:620:U:OP2	1.98	0.46
1:A:3:ARG:HD3	48:5:911:C:N4	2.31	0.46
1:A:66:PRO:HB2	1:A:67:TYR:CE2	2.50	0.46
3:C:11:LEU:HD13	3:C:159:ILE:HD11	1.97	0.46
5:E:51:ARG:NH1	13:M:114:ASP:OD2	2.48	0.46
5:E:58:LEU:HD12	5:E:78:ARG:HD3	1.97	0.46
7:G:74:THR:O	7:G:77:GLN:HG3	2.15	0.46
18:R:88:ARG:HD2	48:5:1864:A:H5'	1.97	0.46
19:S:155:ARG:NH2	48:5:3206:C:O2	2.48	0.46
48:5:1239:C:N4	48:5:1249:G:H1	2.10	0.46
18:R:43:LYS:HE2	48:5:1765:U:H5'	1.97	0.46
48:5:1912:U:N3	48:5:2122:G:OP2	2.46	0.46
48:5:3225:C:H2'	48:5:3226:A:O4'	2.15	0.46
48:5:3340:G:H4'	48:5:3341:U:OP1	2.15	0.46
1:A:130:SER:HA	1:A:169:ILE:HG22	1.97	0.46
1:A:72:ARG:NH1	1:A:72:ARG:HG3	2.31	0.46
2:B:95:THR:HG22	48:5:3243:A:H4'	1.98	0.46
7:G:149:LYS:HD3	7:G:201:THR:O	2.16	0.46
9:I:169:LYS:O	9:I:170:LYS:HD3	2.15	0.46
10:J:142:LYS:HD3	10:J:142:LYS:HA	1.67	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:65:ILE:HG21	10:J:65:ILE:HD13	1.60	0.46
15:O:10[B]:ASP:HB2	15:O:117[B]:ARG:HG3	1.97	0.46
21:U:12:ALA:HB2	21:U:68:THR:HG23	1.97	0.46
48:5:208:C:H2'	48:5:209:A:H5'	1.97	0.46
48:5:238:A:HO2'	48:5:239:G:P	2.38	0.46
2:B:380:MET:HE3	48:5:3369:G:C6	2.51	0.46
2:B:68:HIS:CD2	2:B:69:LYS:HG3	2.50	0.46
19:S:48:LEU:O	19:S:49:HIS:ND1	2.49	0.46
20:T:48:ILE:HG13	20:T:94:GLU:HG2	1.97	0.46
26:Z:128:GLN:O	26:Z:130:PHE:N	2.48	0.46
48:5:1876:U:C6	48:5:1876:U:C5'	2.99	0.46
48:5:2304:C:C5	48:5:2305:G:C6	3.04	0.46
48:5:2681:U:O2'	48:5:2682:C:H5'	2.16	0.46
48:5:2696:A:H2'	48:5:2697:A:C8	2.50	0.46
48:5:2957:G:C8	48:5:2957:G:H5'	2.45	0.46
48:5:801:A:H4'	48:5:802:C:O5'	2.15	0.46
49:7:22:A:C6	49:7:23:A:C6	3.04	0.46
50:8:83:C:H4'	50:8:85:G:N3	2.31	0.46
3:C:209:TYR:O	3:C:230:VAL:HG22	2.16	0.46
13:M:121:MET:HG3	48:5:3214:U:C4	2.50	0.46
14:N:160:GLU:N	14:N:160:GLU:OE1	2.41	0.46
15:O:108[B]:ILE:HA	15:O:109[B]:PRO:HD2	1.84	0.46
15:O:10[B]:ASP:OD2	15:O:37[B]:ARG:NH2	2.35	0.46
26:Z:54:THR:HG22	26:Z:57:HIS:NE2	2.31	0.46
48:5:1025:A:H5'	48:5:1026:A:OP2	2.16	0.46
15:O:25[A]:LYS:HE3	48:5:1176:C:OP1	2.15	0.46
48:5:1232:C:C5	48:5:1261:G:H2'	2.50	0.46
48:5:1710:C:H2'	48:5:1711:C:H6	1.81	0.46
48:5:173:G:H1'	48:5:174:C:H5'	1.98	0.46
48:5:1815:U:O2'	48:5:1816:A:P	2.72	0.46
48:5:2772:C:H1'	48:5:2773:C:OP2	2.16	0.46
48:5:2947:G:N2	48:5:2948:C:C2	2.83	0.46
48:5:736:A:C4	48:5:737:G:H1'	2.50	0.46
48:5:879:U:O2	48:5:2357:A:H1'	2.14	0.46
50:8:125:U:O2'	50:8:126:A:H5'	2.15	0.46
6:F:158:LYS:HD2	6:F:159:GLN:N	2.30	0.46
7:G:136:LEU:HD23	7:G:136:LEU:HA	1.72	0.46
7:G:205:ALA:C	7:G:207:ASP:H	2.19	0.46
10:J:20:ASN:HB3	10:J:126:ASP:HB2	1.98	0.46
21:U:100:THR:O	21:U:101:ASN:HB2	2.14	0.46
25:Y:4:GLN:HB2	48:5:229:G:H5''	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:174:C:H2'	48:5:175:C:C6	2.51	0.46
48:5:2282:U:O2	48:5:2310:U:H4'	2.16	0.46
48:5:3167:A:O2'	48:5:3168:A:OP1	2.27	0.46
48:5:3174:A:H2'	48:5:3175:U:C5'	2.46	0.46
48:5:3159:C:H4'	48:5:3395:G:C5	2.51	0.46
48:5:546:C:H4'	48:5:547:G:O5'	2.15	0.46
48:5:578:A:H5''	48:5:579:G:O5'	2.15	0.46
49:7:43:U:C4	49:7:44:C:C4	3.03	0.46
50:8:9:A:H2'	50:8:10:A:C8	2.50	0.46
2:B:148:LEU:HD21	2:B:196:ARG:HD3	1.98	0.46
2:B:229:VAL:HG13	2:B:235:THR:HG21	1.98	0.46
3:C:140:HIS:CG	3:C:247:PHE:HB2	2.50	0.46
12:L:46:ILE:HA	12:L:46:ILE:HD13	1.45	0.46
13:M:47:ASP:C	13:M:49:PRO:HD3	2.36	0.46
19:S:104:GLU:O	19:S:104:GLU:HG3	2.14	0.46
19:S:40:ARG:HA	19:S:40:ARG:HD2	1.55	0.46
3:C:196:ASN:ND2	48:5:337:G:OP2	2.37	0.46
2:B:244:ARG:HG2	2:B:244:ARG:HH11	1.81	0.46
2:B:81:THR:CG2	2:B:81:THR:O	2.64	0.46
4:D:126:GLU:HA	4:D:196:ARG:HD2	1.97	0.46
7:G:160:ILE:HD12	7:G:164:VAL:HG13	1.98	0.46
8:H:139:ASN:N	8:H:139:ASN:OD1	2.47	0.46
9:I:86:HIS:ND1	9:I:139:ARG:NH1	2.57	0.46
19:S:139:TYR:CD1	19:S:140:VAL:HG23	2.51	0.46
48:5:1096:U:H4'	48:5:1097:G:O5'	2.16	0.46
48:5:2514:U:OP1	48:5:2514:U:H6	1.99	0.46
48:5:253:A:HO2'	48:5:254:A:H8	1.64	0.46
48:5:709:A:H2'	48:5:710:A:O4'	2.16	0.46
49:7:3:U:H2'	49:7:4:U:C6	2.50	0.46
1:A:53:GLY:O	1:A:192:LYS:HE3	2.15	0.46
3:C:302:ALA:HB2	17:Q:39:ARG:CZ	2.45	0.46
4:D:187:THR:CG2	4:D:189:GLU:HB2	2.45	0.46
7:G:219:ASP:O	7:G:223:ALA:HB3	2.16	0.46
13:M:50:LYS:HD3	13:M:91:CYS:SG	2.56	0.46
22:V:46:LEU:HG	22:V:47:ASN:OD1	2.15	0.46
48:5:1118:C:H6	48:5:1118:C:O5'	1.99	0.46
48:5:1257:C:H2'	48:5:1258:U:O4'	2.16	0.46
48:5:2746:A:H2'	48:5:2747:A:O4'	2.16	0.46
48:5:642:U:H6	48:5:642:U:O5'	1.99	0.46
48:5:92:G:H5'	48:5:93:C:H5''	1.98	0.46
6:F:221:LYS:O	6:F:228:SER:O	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:55:ARG:NH2	13:M:77:ARG:HA	2.31	0.46
15:O:124[B]:LEU:O	15:O:128[B]:ARG:HB2	2.15	0.46
15:O:34[B]:VAL:HB	15:O:103[B]:LYS:HB2	1.96	0.46
21:U:27:VAL:HG21	21:U:107:PHE:HE2	1.80	0.46
48:5:1012:G:O2'	48:5:1013:G:H5'	2.16	0.45
48:5:1204:A:H2'	48:5:1205:A:H5'	1.98	0.45
48:5:1354:G:C6	48:5:1358:C:H5'	2.51	0.45
18:R:18:GLY:HA3	48:5:1874:A:H5''	1.98	0.45
48:5:3238:G:C5'	48:5:3238:G:H8	2.29	0.45
48:5:491:C:H5''	48:5:492:U:OP2	2.15	0.45
1:A:137:ILE:HG12	1:A:147:ARG:HG3	1.98	0.45
1:A:204:MET:HE3	1:A:208:ASP:CB	2.46	0.45
2:B:188:ILE:HA	2:B:191:LYS:HD2	1.98	0.45
16:P:26:PHE:HE1	16:P:120:ASN:HA	1.82	0.45
25:Y:103:LYS:HD3	25:Y:103:LYS:HA	1.45	0.45
26:Z:36:HIS:H	26:Z:37:PRO:HD3	1.82	0.45
48:5:138:U:H2'	48:5:139:G:C8	2.52	0.45
48:5:2180:G:H2'	48:5:2181:C:C6	2.51	0.45
48:5:244:G:C6	48:5:245:U:C4	3.04	0.45
48:5:731:U:H2'	48:5:732:C:C6	2.52	0.45
4:D:115:LEU:HD12	4:D:119:TYR:HD2	1.80	0.45
4:D:273:ARG:HG2	4:D:273:ARG:O	2.15	0.45
6:F:151:ARG:NH2	48:5:1334:U:O2'	2.49	0.45
7:G:156:ASP:OD2	7:G:183:LYS:HG2	2.15	0.45
8:H:93:VAL:O	8:H:177:ASP:HA	2.16	0.45
15:O:128[B]:ARG:HD3	15:O:128[B]:ARG:HA	1.75	0.45
48:5:3287:U:N3	48:5:3288:G:N7	2.64	0.45
50:8:10:A:H2'	50:8:11:C:C6	2.51	0.45
1:A:224:THR:HG21	48:5:2201:G:N2	2.30	0.45
3:C:145:ILE:HA	3:C:146:PRO:HD3	1.87	0.45
7:G:138:HIS:CE1	48:5:119:U:C2	3.04	0.45
7:G:202:GLU:O	7:G:203:VAL:HB	2.15	0.45
10:J:13:LYS:HE2	10:J:132:ASN:ND2	2.32	0.45
48:5:1494:U:H4'	48:5:1495:U:O5'	2.17	0.45
48:5:1686:U:O2	48:5:1688:U:H1'	2.17	0.45
48:5:278:U:O5'	48:5:278:U:H6	2.00	0.45
14:N:69:GLY:O	48:5:290:G:H4'	2.16	0.45
48:5:958:C:C4	48:5:960:U:H1'	2.51	0.45
50:8:155:A:H2'	50:8:156:U:O4'	2.16	0.45
50:8:62:C:H4'	50:8:63:G:O5'	2.16	0.45
3:C:152:VAL:HG22	3:C:172:VAL:HG21	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:98:VAL:HA	5:E:101:PHE:HD2	1.80	0.45
6:F:158:LYS:O	6:F:203:TRP:HZ3	1.99	0.45
7:G:73:PRO:HD3	7:G:233:TRP:CG	2.50	0.45
8:H:75:VAL:HG22	8:H:78:MET:CE	2.46	0.45
8:H:90:MET:O	8:H:143:GLU:O	2.34	0.45
20:T:68:THR:HG22	20:T:71:SER:N	2.27	0.45
48:5:1284:C:O2'	48:5:1285:G:H5'	2.16	0.45
48:5:627:U:H4'	48:5:1399:A:O2'	2.16	0.45
14:N:93:LYS:NZ	48:5:2600:C:OP1	2.47	0.45
48:5:655:C:H2'	48:5:656:A:C8	2.51	0.45
2:B:5:LYS:HE3	48:5:2878:G:OP1	2.16	0.45
9:I:55:ASN:O	9:I:131:ILE:HG12	2.16	0.45
10:J:171:VAL:HG13	10:J:172:LEU:N	2.31	0.45
12:L:119:TYR:HD1	12:L:145:PHE:CE2	2.35	0.45
17:Q:67:ILE:HG23	17:Q:81:VAL:HG11	1.97	0.45
20:T:160:ILE:HD12	20:T:160:ILE:HA	1.67	0.45
23:W:102:LYS:HG2	23:W:105:ARG:NH2	2.32	0.45
48:5:1565:G:C2	48:5:1566:A:H1'	2.51	0.45
48:5:3163:A:C6	48:5:3164:C:N4	2.85	0.45
48:5:3330:A:C5'	48:5:3330:A:H8	2.29	0.45
48:5:499:G:H2'	48:5:500:C:C6	2.52	0.45
50:8:154:C:H2'	50:8:155:A:O4'	2.16	0.45
9:I:170:LYS:HG3	9:I:175:ASN:HA	1.98	0.45
22:V:120:LYS:H	22:V:137:VAL:HG23	1.81	0.45
48:5:1103:A:H3'	48:5:1104:G:H5'	1.99	0.45
48:5:1564:U:H2'	48:5:1565:G:H8	1.80	0.45
48:5:208:C:O2'	48:5:209:A:H5'	2.16	0.45
48:5:2174:G:H4'	48:5:2175:U:O5'	2.17	0.45
48:5:312:C:O2'	48:5:313:A:H5'	2.16	0.45
48:5:90:C:C2'	48:5:91:G:H5'	2.47	0.45
17:Q:184:PHE:CD2	48:5:2730:G:H4'	2.51	0.45
18:R:143:ILE:HG22	18:R:144:GLN:N	2.31	0.45
22:V:27:ASP:HA	22:V:113:ALA:O	2.17	0.45
26:Z:46:ILE:HD11	26:Z:49:TYR:CE2	2.51	0.45
48:5:1567:U:H2'	48:5:1568:U:C4'	2.47	0.45
48:5:1614:C:H2'	48:5:1615:C:H6	1.81	0.45
18:R:96:ILE:HG12	48:5:1722:U:O4'	2.17	0.45
48:5:1801:U:H2'	48:5:1802:C:C6	2.52	0.45
48:5:238:A:H2'	48:5:239:G:O4'	2.17	0.45
48:5:3245:A:H2	48:5:3246:G:C2	2.35	0.45
48:5:3330:A:C5'	48:5:3330:A:C8	3.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:65:A:C4	48:5:110:G:N7	2.84	0.45
5:E:26:ARG:NH2	48:5:607:A:OP1	2.50	0.45
6:F:173:LEU:HA	6:F:173:LEU:HD12	1.81	0.45
8:H:4:ILE:HG21	8:H:4:ILE:HD13	1.66	0.45
9:I:174:THR:OG1	9:I:175:ASN:N	2.49	0.45
10:J:107:ASP:O	10:J:108:GLU:HG2	2.17	0.45
15:O:122[B]:GLN:NE2	48:5:1181:U:H2'	2.32	0.45
15:O:8[B]:VAL:HG12	15:O:117[B]:ARG:HB3	1.99	0.45
18:R:90:PRO:HG2	18:R:93:VAL:CG2	2.47	0.45
48:5:1816:A:C2'	48:5:1817:G:H5''	2.46	0.45
48:5:3163:A:O2'	48:5:3164:C:H5'	2.16	0.45
48:5:3275:U:C6	48:5:3275:U:OP1	2.69	0.45
7:G:33:ASN:HA	48:5:2549:G:N2	2.32	0.45
9:I:210:ILE:HA	9:I:217:PHE:HE1	1.79	0.45
9:I:24:ARG:HG3	9:I:24:ARG:H	1.43	0.45
15:O:128[A]:ARG:HD3	15:O:128[A]:ARG:HA	1.50	0.45
16:P:69:ARG:NH2	48:5:2992:U:H1'	2.31	0.45
22:V:45:ARG:O	22:V:46:LEU:C	2.55	0.45
26:Z:46:ILE:HD12	26:Z:47:GLU:N	2.32	0.45
18:R:8:LYS:NZ	48:5:1473:G:OP2	2.50	0.45
48:5:1580:A:O2'	48:5:1581:C:OP2	2.30	0.45
48:5:422:A:C2	48:5:2363:A:H4'	2.52	0.45
48:5:2567:C:H42	48:5:2568:C:H41	1.64	0.45
17:Q:157:PRO:CB	48:5:2729:U:H4'	2.47	0.45
48:5:3085:G:H5''	48:5:3086:A:OP1	2.17	0.45
4:D:8:LYS:HD2	49:7:15:C:O2'	2.17	0.45
10:J:132:ASN:HD22	10:J:132:ASN:H	1.65	0.45
12:L:116:LEU:HA	12:L:116:LEU:HD23	1.73	0.45
14:N:192:LYS:O	14:N:196:THR:OG1	2.35	0.45
15:O:60[A]:LYS:NZ	48:5:1307:G:H5''	2.32	0.45
25:Y:83:ASP:O	25:Y:84:LYS:HB2	2.17	0.45
48:5:181:U:O5'	48:5:181:U:H6	2.00	0.44
48:5:92:G:H5''	48:5:94:G:N7	2.32	0.44
3:C:148:ILE:HA	3:C:149:PRO:C	2.37	0.44
7:G:99:PRO:HG2	7:G:190:VAL:HG13	1.99	0.44
13:M:60:LEU:HA	13:M:60:LEU:HD23	1.83	0.44
15:O:18[A]:ARG:NH2	48:5:1318:A:OP1	2.42	0.44
19:S:26:ARG:HB3	20:T:150:THR:HG22	1.97	0.44
48:5:1838:G:H4'	48:5:1839:A:N3	2.32	0.44
48:5:2209:U:H1'	48:5:2210:G:H5''	1.99	0.44
48:5:2358:A:H2'	48:5:2359:C:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:68[A]:ARG:NH1	48:5:2988:C:OP1	2.50	0.44
2:B:102:LEU:O	48:5:3147:G:H4'	2.16	0.44
48:5:620:U:H5''	48:5:621:A:O5'	2.17	0.44
48:5:625:G:H2'	48:5:626:U:O4'	2.18	0.44
48:5:736:A:C5	48:5:737:G:H1'	2.52	0.44
1:A:105:GLY:CA	1:A:160:SER:HB3	2.47	0.44
2:B:331:ASN:OD1	2:B:331:ASN:N	2.49	0.44
7:G:236:GLY:O	7:G:237:ILE:HB	2.17	0.44
10:J:132:ASN:N	10:J:132:ASN:HD22	2.16	0.44
16:P:31:GLU:CG	16:P:60:PHE:HA	2.46	0.44
16:P:52:LEU:HD13	16:P:88:VAL:HG11	1.99	0.44
48:5:1560:G:HO2'	48:5:1561:G:P	2.36	0.44
48:5:1807:G:C6	48:5:1808:G:N1	2.86	0.44
48:5:2298:U:O4	48:5:2923:U:H5	2.00	0.44
48:5:2897:A:H2'	48:5:2899:C:H5'	1.97	0.44
48:5:622:A:H2'	48:5:623:U:O4'	2.17	0.44
2:B:325:LYS:HG2	2:B:326:GLY:N	2.32	0.44
4:D:257:GLU:O	4:D:258:LYS:HD3	2.18	0.44
6:F:150:LYS:HE2	6:F:151:ARG:NH1	2.33	0.44
6:F:25:GLN:O	6:F:28:ALA:N	2.49	0.44
10:J:17:LEU:HD21	10:J:19:LEU:HD21	1.98	0.44
17:Q:8:LYS:HE3	17:Q:8:LYS:HB2	1.53	0.44
13:M:40:ASP:HA	19:S:143:PHE:CE2	2.52	0.44
48:5:1246:G:C8	48:5:1264:G:C6	3.05	0.44
48:5:839:C:O2'	48:5:1724:U:OP1	2.27	0.44
48:5:1758:G:H5''	48:5:1759:C:OP2	2.18	0.44
48:5:182:U:H4'	48:5:182:U:OP1	2.16	0.44
48:5:247:C:N3	48:5:248:U:H1'	2.32	0.44
48:5:32:U:O5'	48:5:32:U:H6	2.00	0.44
1:A:15:ILE:HD12	1:A:15:ILE:HA	1.66	0.44
8:H:90:MET:HE3	8:H:90:MET:HB3	1.85	0.44
14:N:50:ARG:NH1	48:5:267:G:H4'	2.33	0.44
14:N:56:LYS:NZ	14:N:145:ASP:OD2	2.50	0.44
23:W:119:GLU:O	23:W:122:ALA:HB3	2.17	0.44
26:Z:46:ILE:HD13	26:Z:49:TYR:N	2.32	0.44
48:5:1024:G:H5''	48:5:1025:A:OP2	2.17	0.44
48:5:1024:G:C2'	48:5:1026:A:H8	2.26	0.44
48:5:1128:U:H2'	48:5:1129:A:O4'	2.18	0.44
48:5:1151:U:H3'	48:5:1152:G:C8	2.53	0.44
48:5:1764:U:H3'	48:5:1765:U:C5'	2.47	0.44
48:5:1817:G:O2'	48:5:1818:U:P	2.76	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:1942:U:H2'	48:5:1943:C:O4'	2.18	0.44
48:5:3195:U:C1'	48:5:3196:U:OP1	2.65	0.44
2:B:106:TRP:CH2	2:B:161:LEU:HD13	2.52	0.44
4:D:95:TRP:HZ3	4:D:156:GLY:O	1.99	0.44
7:G:162:LEU:HD23	14:N:7:LEU:HD21	1.99	0.44
8:H:161:LEU:O	8:H:164:ILE:HG22	2.18	0.44
22:V:84:SER:HA	22:V:94:TYR:HB3	2.00	0.44
24:X:111:ASN:ND2	48:5:1608:C:H5''	2.33	0.44
24:X:58:ASP:O	24:X:62:VAL:HG23	2.18	0.44
25:Y:120:GLN:OE1	25:Y:126:LEU:HD23	2.18	0.44
48:5:1565:G:H1'	48:5:1575:A:C2	2.52	0.44
48:5:1753:G:H2'	48:5:1754:G:O5'	2.17	0.44
48:5:1481:A:O2'	48:5:1858:A:N3	2.40	0.44
48:5:3060:C:H1'	48:5:3332:U:H1'	1.99	0.44
48:5:439:C:H4'	48:5:440:A:C5'	2.46	0.44
13:M:77:ARG:NH1	48:5:562:C:OP2	2.49	0.44
48:5:611:A:H4'	48:5:611:A:OP2	2.16	0.44
1:A:226:SER:N	48:5:2202:C:H5''	2.33	0.44
3:C:22:LEU:HA	3:C:23:PRO:HD3	1.68	0.44
4:D:222:LEU:HA	4:D:222:LEU:HD23	1.77	0.44
4:D:43:LYS:O	4:D:46:THR:OG1	2.26	0.44
8:H:92:TYR:N	8:H:92:TYR:CD1	2.84	0.44
26:Z:81:LEU:HD22	26:Z:81:LEU:HA	1.48	0.44
7:G:51:LYS:HE3	48:5:1557:A:OP1	2.17	0.44
48:5:2224:A:H5''	48:5:2225:U:OP2	2.17	0.44
48:5:237:G:C2	48:5:238:A:C8	3.06	0.44
48:5:2667:A:C5'	48:5:2667:A:H8	2.28	0.44
48:5:3362:A:C2	48:5:3363:U:C2	3.06	0.44
48:5:48:A:O4'	48:5:50:U:C6	2.71	0.44
1:A:144:ASN:O	1:A:160:SER:N	2.45	0.44
1:A:40:TYR:O	48:5:2550:U:H5	2.01	0.44
2:B:218:ILE:CG1	2:B:276:THR:HG23	2.48	0.44
2:B:221:THR:CG2	2:B:273:HIS:H	2.28	0.44
3:C:131:VAL:O	3:C:135:VAL:HG23	2.18	0.44
14:N:73:ARG:HB2	14:N:92:LEU:HD23	2.00	0.44
15:O:108[A]:ILE:HA	15:O:109[A]:PRO:HD2	1.90	0.44
15:O:61[A]:ALA:CB	15:O:66[A]:LYS:HG3	2.48	0.44
22:V:93:LEU:H	22:V:93:LEU:HD23	1.83	0.44
48:5:1109:U:H2'	48:5:1110:U:O4'	2.17	0.44
48:5:1152:G:OP2	48:5:1152:G:H8	2.01	0.44
48:5:1456:A:H4'	48:5:1457:U:O5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:1655:G:H5''	48:5:1655:G:C8	2.51	0.44
48:5:342:A:C2	48:5:368:G:C8	3.06	0.44
48:5:412:G:H2'	48:5:413:U:C6	2.53	0.44
2:B:296:THR:HG22	2:B:297:SER:N	2.33	0.44
3:C:182:LEU:HD13	3:C:182:LEU:HA	1.71	0.44
6:F:140:SER:O	6:F:144:ILE:HG13	2.18	0.44
8:H:94:TYR:CD2	8:H:98:PRO:HA	2.52	0.44
9:I:171:TRP:HE3	9:I:178:ARG:HB3	1.82	0.44
15:O:127[B]:LEU:HD11	19:S:168:PRO:HG3	2.00	0.44
20:T:80:VAL:HG11	20:T:85:LEU:HD12	1.99	0.44
26:Z:129:TRP:O	26:Z:132:SER:OG	2.36	0.44
48:5:1093:A:H2	48:5:1096:U:O2	2.01	0.44
48:5:1565:G:N1	48:5:1574:C:C2	2.83	0.44
48:5:1638:A:H2	48:5:1736:G:N3	2.16	0.44
48:5:1770:G:H5'	48:5:1771:C:OP2	2.18	0.44
48:5:2427:U:H2'	48:5:2428:U:C6	2.53	0.44
48:5:2437:G:C8	48:5:2437:G:H5'	2.44	0.44
48:5:2437:G:H2'	48:5:2438:A:O4'	2.18	0.44
12:L:16:LYS:HE3	48:5:49:A:OP1	2.18	0.44
7:G:68:ARG:H	7:G:68:ARG:HG2	1.66	0.44
15:O:85[B]:ARG:HD3	15:O:90[B]:HIS:ND1	2.33	0.44
18:R:28:GLU:O	18:R:32:ILE:HG13	2.18	0.44
19:S:155:ARG:HD3	19:S:172:TYR:CD2	2.52	0.44
20:T:17:ARG:HH11	20:T:17:ARG:CG	2.31	0.44
26:Z:36:HIS:N	26:Z:37:PRO:HD3	2.33	0.44
15:O:62[B]:THR:HA	48:5:1306:G:C6	2.53	0.43
48:5:1523:U:H3'	48:5:1607:U:O2	2.18	0.43
48:5:1802:C:H2'	48:5:1803:C:C6	2.53	0.43
48:5:183:G:H3'	48:5:183:G:C8	2.53	0.43
3:C:8:VAL:O	3:C:16:THR:HB	2.18	0.43
14:N:153:ASP:OD1	14:N:155:VAL:HG22	2.17	0.43
15:O:138[B]:LEU:HD12	15:O:138[B]:LEU:HA	1.75	0.43
15:O:65[A]:ASN:C	15:O:67[A]:THR:H	2.21	0.43
48:5:1313:G:H2'	48:5:1314:C:C6	2.53	0.43
48:5:163:C:H42	48:5:258:G:H1	1.65	0.43
48:5:178:U:H2'	48:5:179:C:O4'	2.19	0.43
48:5:2101:C:HO2'	48:5:2102:U:P	2.41	0.43
48:5:2192:C:H2'	48:5:2193:U:O4'	2.17	0.43
48:5:2207:A:H2'	48:5:2208:A:O4'	2.19	0.43
6:F:241:LYS:NZ	48:5:576:C:OP1	2.49	0.43
3:C:141:ARG:NH1	3:C:180:LYS:HD3	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:211:LEU:HA	4:D:211:LEU:HD23	1.71	0.43
6:F:229:PHE:CD1	6:F:229:PHE:C	2.91	0.43
15:O:59[B]:ARG:NH1	48:5:1307:G:OP2	2.52	0.43
21:U:29:ASP:O	21:U:32:SER:N	2.50	0.43
24:X:40:LEU:HB3	24:X:41:ALA:H	1.58	0.43
25:Y:59:VAL:O	25:Y:64:LYS:HD2	2.18	0.43
48:5:123:A:H5'	48:5:124:U:OP2	2.18	0.43
48:5:174:C:H2'	48:5:175:C:H6	1.84	0.43
48:5:2140:U:O2'	48:5:2978:U:H5'	2.18	0.43
48:5:2768:U:H2'	48:5:2769:A:C8	2.52	0.43
48:5:2949:U:C5	48:5:2950:G:C6	3.05	0.43
48:5:3329:U:H2'	48:5:3330:A:H5''	2.01	0.43
48:5:438:A:H2'	48:5:494:G:N2	2.33	0.43
48:5:702:C:O2	48:5:788:C:H4'	2.18	0.43
4:D:158:ARG:HD3	49:7:46:A:OP1	2.19	0.43
48:5:406:G:H1'	50:8:16:G:N2	2.32	0.43
1:A:116:VAL:CG1	1:A:134:VAL:HG11	2.48	0.43
1:A:30:ARG:NH2	1:A:33:ASP:OD1	2.51	0.43
3:C:177:ASP:O	3:C:180:LYS:HB3	2.18	0.43
15:O:177[B]:LYS:HB3	15:O:177[B]:LYS:HE2	1.80	0.43
17:Q:141:ARG:HD3	48:5:743:C:O2	2.17	0.43
18:R:9:ARG:NH2	48:5:1602:A:O3'	2.51	0.43
20:T:129:LYS:HG2	48:5:1095:U:O2	2.17	0.43
21:U:36:TYR:O	21:U:40:HIS:HD2	2.01	0.43
48:5:1498:A:H2'	48:5:1499:C:C6	2.54	0.43
48:5:1510:G:H8	48:5:1510:G:O5'	2.00	0.43
48:5:15:C:H6	48:5:15:C:C5'	2.27	0.43
48:5:1614:C:H2'	48:5:1615:C:C6	2.53	0.43
48:5:1620:U:H2'	48:5:1621:A:C8	2.54	0.43
48:5:1655:G:H8	48:5:1655:G:H5'	1.80	0.43
48:5:1715:A:H4'	48:5:1716:U:OP1	2.18	0.43
48:5:1783:U:H2'	48:5:1784:G:C8	2.53	0.43
48:5:1815:U:H1'	48:5:1816:A:O5'	2.19	0.43
48:5:1880:U:H2'	48:5:1881:A:O4'	2.18	0.43
25:Y:103:LYS:HZ3	48:5:221:A:H61	1.66	0.43
48:5:2511:A:C3'	48:5:2512:C:H5''	2.49	0.43
48:5:2590:A:C2'	48:5:2591:A:O5'	2.67	0.43
48:5:83:U:H2'	48:5:84:U:O4'	2.18	0.43
48:5:863:C:H2'	48:5:864:G:O4'	2.18	0.43
1:A:243:THR:HG23	48:5:2241:U:O2'	2.18	0.43
2:B:328:ILE:HD13	2:B:328:ILE:HG21	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:338:LYS:O	3:C:340:GLY:N	2.50	0.43
6:F:179:LEU:HD22	6:F:183:ASP:OD2	2.18	0.43
9:I:171:TRP:O	9:I:174:THR:CG2	2.66	0.43
10:J:8:PRO:HD2	10:J:10:ARG:HG2	1.99	0.43
15:O:15[B]:LEU:HD21	15:O:125[B]:ARG:HG3	2.00	0.43
16:P:4:TYR:CZ	16:P:18:ARG:HG3	2.53	0.43
48:5:1014:U:H2'	48:5:1015:U:H5''	2.00	0.43
48:5:1483:G:C8	48:5:1485:G:C8	3.07	0.43
48:5:1553:U:H1'	48:5:1554:U:H5	1.83	0.43
48:5:1864:A:H2'	48:5:1865:A:C8	2.53	0.43
48:5:1952:G:H1	48:5:2094:C:N4	2.09	0.43
48:5:2406:C:H2'	48:5:2407:C:C6	2.53	0.43
48:5:2585:G:N3	48:5:2585:G:H2'	2.33	0.43
48:5:911:C:O2	48:5:917:A:N1	2.51	0.43
1:A:204:MET:HG2	48:5:914:A:N3	2.33	0.43
1:A:242:ARG:HH11	1:A:242:ARG:HG3	1.84	0.43
3:C:112:LYS:HB2	3:C:112:LYS:HE2	1.81	0.43
3:C:89:ALA:O	3:C:90:PHE:O	2.36	0.43
4:D:125:VAL:O	4:D:125:VAL:HG12	2.18	0.43
4:D:68:THR:CG2	4:D:70:THR:H	2.31	0.43
5:E:152:THR:HA	5:E:153:PRO:HD3	1.76	0.43
8:H:13:PRO:HG2	8:H:16:VAL:CG1	2.49	0.43
8:H:87:LYS:NZ	8:H:191:LEU:HD21	2.34	0.43
8:H:7:GLU:HA	8:H:68:LEU:HD11	2.00	0.43
17:Q:176:ARG:HA	17:Q:182:LYS:HB3	2.00	0.43
22:V:120:LYS:H	22:V:137:VAL:CG2	2.30	0.43
48:5:1165:A:H2'	48:5:1166:G:O4'	2.19	0.43
48:5:183:G:H2'	48:5:184:U:O4'	2.17	0.43
48:5:248:U:C3'	48:5:249:U:H5'	2.48	0.43
48:5:2518:C:C2	48:5:2590:A:C2	3.07	0.43
48:5:3027:A:H2'	48:5:3028:G:O4'	2.19	0.43
12:L:12:ASN:ND2	48:5:797:U:O2	2.47	0.43
49:7:106:U:H2'	49:7:107:C:O4'	2.19	0.43
1:A:33:ASP:OD1	1:A:33:ASP:N	2.48	0.43
2:B:81:THR:HB	2:B:321:PHE:HA	2.01	0.43
4:D:59:ASP:OD2	4:D:81:HIS:CD2	2.71	0.43
4:D:99:TYR:CD1	4:D:199:ILE:HG12	2.54	0.43
7:G:190:VAL:HG12	7:G:190:VAL:O	2.18	0.43
12:L:80:VAL:HG12	12:L:85:LEU:O	2.17	0.43
24:X:135:ILE:HD13	24:X:135:ILE:C	2.39	0.43
48:5:1236:G:N2	48:5:1244:A:OP1	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:1390:A:N3	48:5:1390:A:H5'	2.33	0.43
48:5:1867:A:H2'	48:5:1868:G:C8	2.54	0.43
48:5:261:U:H2'	48:5:262:U:C6	2.53	0.43
48:5:2836:C:O2	48:5:2836:C:O4'	2.33	0.43
48:5:3287:U:N3	48:5:3288:G:C8	2.87	0.43
48:5:378:A:N7	48:5:391:A:H2	2.16	0.43
48:5:437:G:H5''	48:5:438:A:OP2	2.19	0.43
48:5:726:G:H1'	48:5:744:A:N6	2.33	0.43
3:C:193:LYS:HB2	3:C:193:LYS:HE3	1.66	0.43
4:D:279:LYS:HD3	4:D:282:ARG:CZ	2.48	0.43
7:G:241:LYS:HB2	48:5:2586:G:C5	2.54	0.43
13:M:14:LEU:H	13:M:19:ARG:NH2	2.16	0.43
18:R:110:ARG:O	18:R:110:ARG:HG2	2.19	0.43
18:R:138:LEU:O	18:R:142:ILE:HG13	2.19	0.43
18:R:167:ARG:H	18:R:167:ARG:HG2	1.68	0.43
22:V:87:ARG:HH22	22:V:137:VAL:CG2	2.31	0.43
48:5:1560:G:O2'	48:5:1561:G:P	2.77	0.43
48:5:1763:U:H3'	48:5:1764:U:C5	2.54	0.43
48:5:2656:A:C8	48:5:2658:G:C8	3.07	0.43
48:5:2882:U:H2'	48:5:2883:U:C6	2.54	0.43
48:5:29:C:H4'	48:5:62:A:H4'	2.00	0.43
3:C:112:LYS:HD2	48:5:790:U:H5'	2.01	0.43
48:5:79:U:H2'	48:5:80:G:C8	2.54	0.43
48:5:892:U:H2'	48:5:893:C:H5'	2.00	0.43
1:A:181:LYS:HB2	48:5:860:G:C5	2.53	0.43
1:A:217:GLN:O	1:A:218:HIS:HB3	2.18	0.43
2:B:67:PHE:O	2:B:70:ARG:HB2	2.18	0.43
3:C:52:VAL:HG13	3:C:53:SER:O	2.19	0.43
6:F:32:ALA:O	6:F:35:ALA:HB3	2.19	0.43
9:I:200:LEU:HG	9:I:201:SER:N	2.33	0.43
11:K:105:UNK:HA	11:K:142:UNK:O	2.19	0.43
12:L:133:PRO:O	12:L:135:ALA:N	2.52	0.43
15:O:138[A]:LEU:HA	15:O:138[A]:LEU:HD12	1.66	0.43
20:T:120:LYS:C	20:T:122:GLN:H	2.22	0.43
26:Z:135:ARG:HH11	26:Z:135:ARG:CB	2.31	0.43
26:Z:61:LYS:O	26:Z:65:ARG:HG2	2.18	0.43
15:O:25[B]:LYS:HG3	48:5:1175:C:H5''	2.00	0.43
48:5:1240:A:C2'	48:5:1241:U:H5'	2.48	0.43
48:5:1753:G:C2'	48:5:1754:G:O5'	2.66	0.43
48:5:1760:A:H5'	48:5:1761:C:OP2	2.19	0.43
48:5:2596:U:H2'	48:5:2597:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:2726:C:O5'	48:5:2726:C:O2	2.36	0.43
48:5:2796:G:H5''	48:5:2798:C:O4'	2.19	0.43
48:5:2818:U:C6	48:5:2818:U:C5'	2.95	0.43
48:5:2373:A:N7	48:5:2867:C:H1'	2.34	0.43
48:5:3276:G:H4'	48:5:3277:U:OP1	2.17	0.43
48:5:507:U:H2'	48:5:508:U:C6	2.53	0.43
50:8:59:A:H3'	50:8:59:A:OP2	2.19	0.43
1:A:21:ARG:NH1	48:5:1369:A:OP1	86.06	0.43
1:A:65:ASP:HA	1:A:66:PRO:HD3	1.87	0.43
1:A:68:LYS:HD3	1:A:70:ARG:HH21	1.84	0.43
2:B:39:LYS:HB3	2:B:39:LYS:HE2	1.69	0.43
3:C:258:LEU:HD12	3:C:258:LEU:HA	1.91	0.43
4:D:40:HIS:HD2	4:D:42:ALA:N	2.06	0.43
7:G:81:THR:OG1	7:G:82:LEU:N	2.51	0.43
9:I:36:LEU:N	9:I:36:LEU:HD12	2.33	0.43
12:L:27:ASP:CG	12:L:31:LYS:HD2	2.38	0.43
5:E:175:LYS:HD2	13:M:111:ALA:HA	2.00	0.43
21:U:17:VAL:HB	21:U:63:VAL:HG23	2.01	0.43
22:V:33:ASN:ND2	22:V:64:LYS:HB2	2.33	0.43
22:V:45:ARG:HD3	22:V:45:ARG:HA	1.81	0.43
23:W:63:ILE:HB	23:W:64:THR:H	1.52	0.43
48:5:1563:C:N3	48:5:1576:G:O6	2.52	0.43
48:5:1580:A:HO2'	48:5:1581:C:P	2.40	0.43
24:X:43:ALA:N	48:5:16:A:OP1	2.47	0.43
1:A:224:THR:HG23	48:5:2202:C:C1'	2.48	0.43
48:5:171:G:H1	48:5:247:C:H42	1.67	0.43
48:5:1895:A:O2'	48:5:3053:G:H4'	2.18	0.43
48:5:3155:U:C3'	48:5:3156:U:H5''	2.49	0.43
48:5:3227:A:N3	48:5:3227:A:O4'	2.51	0.43
50:8:47:C:H1'	50:8:61:A:H2'	2.00	0.43
1:A:42:ARG:NH2	48:5:2799:A:H1'	106.11	0.43
4:D:211:LEU:HD13	4:D:219:PHE:CA	2.46	0.43
6:F:169:ILE:HD13	6:F:181:ILE:HA	2.01	0.43
10:J:96:PHE:CD2	10:J:160:VAL:HG23	2.54	0.43
12:L:67:ARG:H	12:L:67:ARG:HG3	1.40	0.43
15:O:167[B]:TYR:CD1	15:O:167[B]:TYR:C	2.92	0.43
16:P:127:ARG:HD2	48:5:1505:C:OP1	2.19	0.43
24:X:105:VAL:HG13	24:X:130:TYR:CD2	2.53	0.43
26:Z:65:ARG:HG3	26:Z:65:ARG:NH1	2.34	0.43
48:5:1246:G:O2'	48:5:1264:G:OP2	2.31	0.42
48:5:2294:U:C2	48:5:2297:U:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:3006:A:H2'	48:5:3007:U:O4'	2.19	0.42
48:5:3164:C:O2'	48:5:3165:A:P	2.77	0.42
50:8:121:U:O2'	50:8:122:U:H5'	2.18	0.42
2:B:186:GLY:O	2:B:190:GLU:HB2	2.19	0.42
6:F:148:VAL:HG12	6:F:181:ILE:HD11	2.01	0.42
12:L:121:SER:O	12:L:121:SER:OG	2.29	0.42
13:M:115:PHE:O	13:M:119:GLN:HG3	2.19	0.42
15:O:157[B]:GLU:OE2	15:O:160[B]:ARG:NH1	2.46	0.42
17:Q:125:ASP:OD1	17:Q:125:ASP:N	2.49	0.42
19:S:171:PHE:O	19:S:172:TYR:C	2.56	0.42
21:U:36:TYR:O	21:U:40:HIS:CD2	2.72	0.42
23:W:97:LYS:O	23:W:100:VAL:HG23	2.18	0.42
48:5:1525:G:C6	48:5:1526:U:O4	2.72	0.42
48:5:1480:G:N2	48:5:1872:C:C5	2.87	0.42
1:A:200:ARG:NH2	48:5:2146:C:OP1	2.49	0.42
48:5:2213:A:H61	48:5:2429:G:H1'	1.84	0.42
48:5:275:U:H2'	48:5:276:U:C6	2.54	0.42
48:5:622:A:H8	48:5:622:A:O5'	2.03	0.42
48:5:926:A:H2'	48:5:927:C:C6	2.55	0.42
2:B:383:LEU:HA	2:B:383:LEU:HD23	1.89	0.42
3:C:80:GLY:O	48:5:357:A:H1'	2.19	0.42
4:D:63:GLN:HB3	4:D:65:ILE:HD11	2.01	0.42
7:G:134:TYR:CD1	7:G:190:VAL:HG11	2.54	0.42
8:H:117:PHE:CE1	8:H:165:CYS:HB3	2.53	0.42
9:I:81:GLY:C	9:I:83:ASP:H	2.21	0.42
48:5:1014:U:H3'	48:5:1015:U:H5'	2.01	0.42
48:5:1084:A:H2'	48:5:1085:A:H5''	2.00	0.42
48:5:1307:G:H1'	48:5:1308:A:C8	2.54	0.42
48:5:1668:G:H2'	48:5:1669:C:O4'	2.19	0.42
48:5:2540:A:O2'	48:5:2541:U:H2'	2.18	0.42
48:5:2770:G:H2'	48:5:2771:U:H5'	1.99	0.42
48:5:3174:A:H2'	48:5:3175:U:H5'	2.02	0.42
48:5:1940:G:N2	48:5:3362:A:H8	2.17	0.42
50:8:6:U:H2'	50:8:7:U:C6	2.54	0.42
2:B:169:THR:CG2	2:B:171:LEU:HG	2.49	0.42
3:C:205:PRO:HB3	3:C:247:PHE:CD2	2.53	0.42
4:D:113:LEU:HD12	4:D:113:LEU:HA	1.68	0.42
4:D:214:ASP:O	4:D:215:ASP:HB2	2.18	0.42
6:F:185:ILE:O	6:F:189:ILE:HG22	2.19	0.42
9:I:41:ALA:O	9:I:139:ARG:NH2	2.38	0.42
18:R:5:ARG:HB2	18:R:5:ARG:CZ	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:99:LEU:O	18:R:103:ARG:HG3	2.18	0.42
26:Z:53:VAL:HA	26:Z:57:HIS:CD2	2.53	0.42
48:5:1622:U:H2'	48:5:1623:G:O4'	2.20	0.42
48:5:2289:U:H2'	48:5:2290:C:C6	2.55	0.42
48:5:283:G:O6	48:5:304:G:H1'	2.20	0.42
48:5:3094:A:H2'	48:5:3095:U:C6	2.54	0.42
48:5:492:U:C2'	48:5:493:G:H5'	2.49	0.42
4:D:269:SER:CB	49:7:1:G:H21	2.32	0.42
1:A:110:GLY:O	1:A:128:ARG:O	18.29	0.42
2:B:49:TYR:O	2:B:79:VAL:HG23	2.19	0.42
3:C:23:PRO:HD2	3:C:26:PHE:CD2	2.54	0.42
6:F:102:VAL:HG12	6:F:130:ILE:HD12	2.02	0.42
6:F:137:GLY:HA3	6:F:236:ILE:HB	2.01	0.42
8:H:129:ARG:O	8:H:132:VAL:HG13	2.20	0.42
8:H:161:LEU:HD13	8:H:179:ILE:HG21	2.02	0.42
22:V:67:PRO:C	22:V:69:LEU:H	2.22	0.42
22:V:71:LYS:HB3	22:V:71:LYS:HE3	1.58	0.42
26:Z:92:PHE:HA	26:Z:95:VAL:HG23	2.01	0.42
48:5:999:G:C6	48:5:1000:C:N4	2.87	0.42
48:5:1661:G:H2'	48:5:1662:G:C8	2.53	0.42
48:5:2313:A:H4'	48:5:2314:U:C5'	2.50	0.42
48:5:3279:A:H2'	48:5:3280:U:H5'	2.00	0.42
48:5:3349:C:H2'	48:5:3350:C:O4'	2.20	0.42
48:5:3350:C:H2'	48:5:3351:U:C2	2.53	0.42
48:5:806:A:H5''	48:5:936:A:H61	1.85	0.42
14:N:38:ARG:NH2	50:8:143:U:OP1	2.41	0.42
3:C:352:ALA:O	3:C:354:VAL:N	2.52	0.42
4:D:181:PRO:HD2	4:D:195:LEU:HD13	2.00	0.42
5:E:93:VAL:HG13	5:E:93:VAL:O	2.19	0.42
9:I:47:PRO:HB3	9:I:171:TRP:CZ2	2.55	0.42
10:J:92:ARG:HH12	10:J:94:ARG:HH11	1.67	0.42
13:M:38:ILE:HA	13:M:44:VAL:HG12	2.02	0.42
17:Q:161:LYS:N	17:Q:161:LYS:HD2	2.35	0.42
20:T:85:LEU:HA	20:T:85:LEU:HD23	1.67	0.42
26:Z:135:ARG:CG	26:Z:135:ARG:HH11	2.32	0.42
48:5:242:C:H2'	48:5:243:G:H8	1.83	0.42
48:5:242:C:H2'	48:5:243:G:C8	2.55	0.42
48:5:2441:A:N1	48:5:2507:C:C2	2.87	0.42
50:8:92:A:H2'	50:8:93:U:O4'	2.19	0.42
2:B:37:ARG:O	2:B:186:GLY:HA3	2.20	0.42
3:C:74:ILE:HA	3:C:74:ILE:HD12	1.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:130:ILE:HG21	6:F:130:ILE:HD13	1.60	0.42
7:G:153:ILE:HD13	7:G:166:LEU:HB3	2.00	0.42
7:G:214:LEU:HD12	7:G:214:LEU:HA	1.78	0.42
19:S:117:ARG:HD2	48:5:1322:U:OP1	2.19	0.42
48:5:1366:A:C2	48:5:1367:G:C4	3.08	0.42
48:5:1648:A:H2'	48:5:1649:U:O4'	2.19	0.42
15:O:68[A]:ARG:NH1	48:5:2988:C:P	2.93	0.42
48:5:3228:C:HO2'	48:5:3229:G:P	2.41	0.42
48:5:735:A:H5''	48:5:735:A:H8	1.84	0.42
49:7:55:A:H2'	49:7:56:A:O4'	2.20	0.42
1:A:200:ARG:HG3	48:5:2147:A:OP1	2.19	0.42
2:B:361:THR:HG23	2:B:371:GLN:O	2.20	0.42
7:G:50:VAL:HG22	7:G:52:TRP:CE2	2.55	0.42
7:G:82:LEU:HD13	7:G:178:ALA:HB1	2.02	0.42
23:W:127:LYS:HA	23:W:130:SER:OG	2.20	0.42
48:5:2436:U:C2'	48:5:2437:G:H5''	2.48	0.42
48:5:3238:G:H5''	48:5:3238:G:H8	1.83	0.42
48:5:3287:U:H2'	48:5:3288:G:H5'	2.00	0.42
48:5:958:C:OP1	48:5:2799:A:H3'	2.19	0.42
8:H:91:ARG:HG2	8:H:182:SER:HB3	2.02	0.42
10:J:21:ILE:HG13	10:J:37:LEU:HD11	2.01	0.42
12:L:59:ARG:HG3	12:L:59:ARG:O	2.18	0.42
20:T:54:HIS:CG	20:T:55:LYS:N	2.87	0.42
48:5:2147:A:H2'	48:5:2148:U:O4'	2.19	0.42
48:5:173:G:N1	48:5:246:U:C2	2.88	0.42
48:5:2682:C:O2'	48:5:2683:U:OP1	2.15	0.42
48:5:2827:U:H2'	48:5:2827:U:O2	2.19	0.42
48:5:2896:A:H8	48:5:2896:A:C5'	2.32	0.42
48:5:2995:A:H8	48:5:2995:A:O5'	2.03	0.42
48:5:3294:A:H2'	48:5:3295:A:O4'	2.20	0.42
48:5:567:G:H2'	48:5:568:G:C8	2.55	0.42
48:5:630:A:H2'	48:5:631:U:C6	2.54	0.42
50:8:126:A:H8	50:8:126:A:OP2	2.02	0.42
1:A:204:MET:HE1	1:A:209:HIS:HB2	2.02	0.42
2:B:76:VAL:HG11	2:B:323:MET:HE3	2.00	0.42
3:C:44:LYS:HB3	3:C:47:ARG:HH11	1.84	0.42
7:G:239:GLY:O	7:G:240:ASN:C	2.58	0.42
7:G:54:GLU:O	7:G:58:VAL:HG23	2.19	0.42
48:5:1190:A:C8	48:5:1193:A:H1'	2.55	0.42
19:S:137:ARG:HD3	48:5:1213:G:OP1	2.20	0.42
48:5:1932:A:H5'	48:5:1933:A:OP2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:2314:U:OP2	48:5:2314:U:H4'	2.20	0.42
48:5:248:U:O2	48:5:248:U:H2'	2.20	0.42
48:5:2568:C:O2'	48:5:2569:A:O5'	2.28	0.42
48:5:2840:C:H2'	48:5:2841:G:O4'	2.20	0.42
48:5:2935:U:H2'	48:5:2935:U:O2	2.20	0.42
48:5:600:G:H5'	48:5:601:U:OP2	2.20	0.42
48:5:748:U:H2'	48:5:749:C:C6	2.55	0.42
2:B:4:ARG:HG3	2:B:4:ARG:HH11	1.84	0.42
4:D:270:LYS:O	4:D:271:LYS:HD3	2.20	0.42
11:K:126:UNK:O	11:K:127:UNK:C	2.68	0.42
12:L:59:ARG:O	12:L:60:ALA:HB3	2.20	0.42
14:N:78:GLY:HA2	14:N:89:VAL:HG21	2.02	0.42
17:Q:90:ASP:O	17:Q:92:ARG:N	2.53	0.42
6:F:73:GLY:O	20:T:143:THR:HB	2.20	0.42
25:Y:11:ASP:HB3	25:Y:14:LYS:HG3	2.02	0.42
48:5:2534:G:OP2	48:5:2534:G:H8	2.03	0.41
2:B:329:PRO:HA	48:5:3047:U:H5'	2.02	0.41
48:5:3158:G:C5	48:5:3159:C:C5	3.08	0.41
48:5:314:U:H2'	48:5:315:C:C6	2.55	0.41
12:L:16:LYS:O	48:5:48:A:OP2	2.38	0.41
48:5:536:U:H1'	48:5:559:A:C8	2.55	0.41
14:N:172:ARG:NH2	48:5:63:A:OP1	2.53	0.41
48:5:971:G:H2'	48:5:972:A:O4'	2.20	0.41
50:8:157:U:O2'	50:8:158:U:H5'	2.19	0.41
2:B:346:THR:O	2:B:348:ARG:N	2.53	0.41
2:B:360:ASP:OD1	2:B:361:THR:N	2.52	0.41
2:B:53:MET:CE	48:5:3047:U:O2'	2.68	0.41
5:E:155:LEU:HA	5:E:155:LEU:HD23	1.76	0.41
12:L:5:LYS:O	48:5:1833:G:H4'	84.41	0.41
15:O:155[B]:LYS:HE2	15:O:155[B]:LYS:HB3	1.87	0.41
15:O:108[A]:ILE:HD13	15:O:160[A]:ARG:HD2	2.02	0.41
19:S:45:LEU:HD22	19:S:45:LEU:HA	1.67	0.41
48:5:240:U:O2'	48:5:241:G:H8	2.02	0.41
48:5:2573:G:H3'	48:5:2574:G:H5''	2.02	0.41
48:5:2660:G:H4'	48:5:2750:U:O2	2.21	0.41
48:5:806:A:O2'	48:5:807:A:H5'	2.19	0.41
48:5:815:G:C6	48:5:906:A:C4	3.08	0.41
49:7:11:A:O2'	49:7:13:A:H2'	2.19	0.41
1:A:61:VAL:HG22	1:A:63:PHE:CE1	2.54	0.41
2:B:147:GLU:CD	2:B:150:ARG:NH2	2.73	0.41
3:C:118:LYS:O	3:C:122:THR:HG22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:80:GLY:HA2	3:C:85:SER:OG	2.20	0.41
7:G:53:PRO:HD2	7:G:56:VAL:HG21	2.02	0.41
8:H:166:ARG:O	8:H:167:VAL:HB	2.20	0.41
8:H:29:GLY:HA3	8:H:82:VAL:HG13	2.01	0.41
10:J:13:LYS:CE	10:J:132:ASN:HD21	2.32	0.41
48:5:1116:G:H4'	48:5:1117:G:OP2	2.20	0.41
48:5:1222:G:HO2'	48:5:1223:A:P	2.43	0.41
48:5:1307:G:O2'	48:5:1308:A:OP2	2.36	0.41
48:5:1690:C:H2'	48:5:1691:U:O4'	2.20	0.41
48:5:2442:G:C2	48:5:2443:A:N7	2.89	0.41
48:5:3393:U:H2'	48:5:3394:U:O4'	2.20	0.41
48:5:529:A:H2'	48:5:530:G:O4'	2.20	0.41
48:5:726:G:C8	48:5:726:G:C5'	3.01	0.41
1:A:250:GLN:HG2	1:A:251:LYS:H	1.84	0.41
4:D:49:TYR:CE1	4:D:75:LEU:HD12	2.56	0.41
5:E:154:LEU:HD23	5:E:154:LEU:HA	1.87	0.41
9:I:156:ARG:C	9:I:158:LYS:H	2.24	0.41
3:C:301:PRO:C	17:Q:39:ARG:HH12	2.23	0.41
19:S:82:ASP:OD1	19:S:87:THR:HB	2.20	0.41
25:Y:33:ALA:HB2	25:Y:101:PRO:HB2	2.02	0.41
26:Z:108:GLU:O	26:Z:112:LYS:HG3	2.20	0.41
20:T:105:PHE:CE1	48:5:1062:A:H4'	2.55	0.41
48:5:1471:U:H2'	48:5:1472:U:C6	2.54	0.41
3:C:88:GLY:N	48:5:1729:A:OP1	101.66	0.41
48:5:1939:G:C6	48:5:2110:G:O6	2.74	0.41
1:A:241:ARG:NH2	48:5:2156:C:OP2	2.53	0.41
48:5:2403:G:N2	48:5:2404:A:N6	2.66	0.41
48:5:2509:U:H2'	48:5:2510:U:C5'	2.45	0.41
48:5:2663:G:H2'	48:5:2664:C:O4'	2.21	0.41
48:5:2298:U:C5	48:5:2921:U:H1'	2.55	0.41
48:5:3288:G:O2'	48:5:3289:G:P	2.78	0.41
48:5:339:C:OP1	48:5:1380:G:O2'	2.30	0.41
48:5:916:G:C5'	48:5:917:A:OP1	2.69	0.41
1:A:68:LYS:HG3	1:A:69:TYR:N	2.36	0.41
2:B:221:THR:HG22	2:B:272:TYR:N	2.36	0.41
3:C:203:ARG:NH1	3:C:226:GLU:OE2	2.54	0.41
4:D:122:VAL:O	4:D:124:GLU:N	2.44	0.41
6:F:22:THR:HA	6:F:25:GLN:OE1	2.20	0.41
11:K:134:UNK:O	11:K:136:UNK:N	2.53	0.41
14:N:22:LEU:HA	14:N:22:LEU:HD12	1.86	0.41
15:O:10[A]:ASP:CG	15:O:37[A]:ARG:HH21	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:25:VAL:HG22	20:T:30:TYR:HE2	1.85	0.41
22:V:87:ARG:HH12	22:V:137:VAL:HG11	1.85	0.41
48:5:1014:U:H3'	48:5:1015:U:C5'	2.51	0.41
48:5:1547:G:H2'	48:5:1548:C:C6	2.56	0.41
48:5:1766:G:C2'	48:5:1767:C:H5'	2.51	0.41
48:5:3242:G:C5'	48:5:3245:A:C8	3.03	0.41
48:5:438:A:O2'	48:5:439:C:P	2.79	0.41
48:5:973:A:H5''	48:5:974:G:OP2	2.21	0.41
4:D:155:THR:HG22	4:D:179:ARG:NH1	2.36	0.41
5:E:80:ASN:HB2	48:5:3272:C:O2	2.21	0.41
6:F:96:PRO:HA	6:F:97:PRO:HD3	1.98	0.41
8:H:20:ILE:HG13	13:M:7:VAL:HG22	2.01	0.41
15:O:49[B]:ARG:O	15:O:52[B]:LEU:HB2	2.20	0.41
15:O:54[B]:TYR:O	15:O:57[B]:PHE:HB3	2.20	0.41
16:P:94:LEU:HD12	16:P:94:LEU:HA	1.71	0.41
17:Q:93:ILE:HG23	48:5:784:A:C6	2.56	0.41
18:R:146:LYS:O	18:R:149:ALA:N	2.53	0.41
19:S:34:GLU:O	19:S:38:LYS:HG3	2.20	0.41
24:X:105:VAL:HG13	24:X:130:TYR:CG	2.56	0.41
24:X:27:ARG:HG2	24:X:27:ARG:H	1.68	0.41
25:Y:102:SER:O	25:Y:103:LYS:HD3	2.20	0.41
48:5:1056:U:H2'	48:5:1057:A:O5'	2.21	0.41
48:5:1241:U:HO2'	48:5:1242:G:P	2.42	0.41
48:5:1249:G:H2'	48:5:1250:G:H8	1.83	0.41
48:5:174:C:H2'	48:5:175:C:O4'	2.21	0.41
48:5:2191:U:H2'	48:5:2192:C:O4'	2.20	0.41
48:5:2405:C:O2	48:5:2819:A:N1	2.53	0.41
48:5:2558:U:O2'	48:5:2559:U:H5'	2.21	0.41
48:5:2911:A:H4'	48:5:2912:G:C8	2.56	0.41
48:5:3278:C:HO2'	48:5:3279:A:P	2.31	0.41
48:5:956:U:H2'	48:5:957:C:C6	2.55	0.41
4:D:108:ARG:HA	4:D:251:PRO:HB2	2.03	0.41
4:D:270:LYS:HG3	4:D:273:ARG:HB3	2.01	0.41
7:G:71:VAL:CG2	7:G:76:ALA:HB2	2.50	0.41
8:H:117:PHE:CZ	8:H:165:CYS:HB3	2.55	0.41
8:H:156:GLN:NE2	8:H:160:ASP:OD1	2.46	0.41
9:I:42:THR:CG2	9:I:45:GLU:HG3	2.51	0.41
12:L:46:ILE:HG23	12:L:46:ILE:HD12	1.80	0.41
14:N:183:THR:CG2	14:N:183:THR:O	2.68	0.41
16:P:36:ILE:O	16:P:39:TRP:HB2	2.21	0.41
17:Q:158:HIS:H	17:Q:186:VAL:CG1	2.28	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:7:TYR:CE2	19:S:34:GLU:HG2	2.56	0.41
6:F:121:LYS:HB2	20:T:133:ALA:HB3	2.03	0.41
22:V:125:LEU:HB3	22:V:126:TRP:CD1	2.55	0.41
25:Y:37:LYS:HE2	25:Y:37:LYS:H	1.85	0.41
25:Y:63:LYS:HD3	25:Y:63:LYS:HA	1.82	0.41
25:Y:50:ILE:HD12	25:Y:70:ILE:HG12	2.02	0.41
26:Z:34:LYS:HD2	26:Z:34:LYS:HA	1.67	0.41
48:5:1077:U:H2'	48:5:1078:U:C6	2.56	0.41
6:F:207:LEU:O	48:5:1334:U:H5'	2.20	0.41
48:5:1358:C:H2'	48:5:1359:C:O4'	2.21	0.41
26:Z:67:LYS:NZ	48:5:1630:U:OP1	2.49	0.41
48:5:2397:A:C2	48:5:2873:U:H5'	2.55	0.41
1:A:71:LEU:HD12	1:A:71:LEU:HA	1.83	0.41
7:G:73:PRO:HA	7:G:232:HIS:O	2.21	0.41
8:H:40:HIS:ND1	8:H:41:ILE:HG13	2.36	0.41
8:H:89:LYS:HG2	8:H:145:VAL:HG22	2.03	0.41
9:I:168:SER:HB2	20:T:160:ILE:C	2.41	0.41
15:O:155[A]:LYS:HE2	15:O:155[A]:LYS:HB3	1.87	0.41
18:R:38:ARG:O	18:R:42:ARG:HG3	2.21	0.41
26:Z:95:VAL:CG1	26:Z:110:ALA:HA	2.50	0.41
48:5:118:U:C5	48:5:119:U:C4	3.09	0.41
48:5:1403:C:C2	48:5:1409:G:C2	3.08	0.41
48:5:1597:C:H5'	48:5:1696:A:H1'	2.01	0.41
48:5:1763:U:H3'	48:5:1764:U:C6	2.56	0.41
16:P:139:TYR:CE1	48:5:2355:G:H4'	2.55	0.41
4:D:48:LYS:NZ	48:5:2749:G:P	2.94	0.41
48:5:2953:U:H5''	48:5:2954:U:OP2	2.20	0.41
48:5:3028:G:H2'	48:5:3029:A:C8	2.55	0.41
48:5:3089:C:H2'	48:5:3090:U:O4'	2.21	0.41
48:5:3289:G:O2'	48:5:3290:G:OP1	2.36	0.41
48:5:797:U:O2'	48:5:798:G:H5'	2.21	0.41
6:F:62:ILE:O	6:F:66:LYS:HG3	2.21	0.41
8:H:17:THR:O	8:H:17:THR:OG1	2.30	0.41
14:N:166:ALA:HB2	48:5:320:G:OP1	2.21	0.41
23:W:13:ILE:HG12	23:W:32:GLN:HA	2.03	0.41
24:X:23:ALA:O	24:X:24:LEU:HB2	2.21	0.41
7:G:108:ARG:NH1	48:5:121:A:C4	2.89	0.41
48:5:1256:G:O6	48:5:1261:G:N2	2.54	0.41
48:5:1480:G:H4'	48:5:1481:A:OP1	2.21	0.41
21:U:100:THR:HA	48:5:1677:G:OP1	2.21	0.41
48:5:1821:U:H4'	48:5:1822:C:OP2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:2101:C:O2'	48:5:2102:U:P	2.78	0.41
48:5:2179:C:H4'	48:5:2180:G:OP2	2.20	0.41
48:5:2199:G:H2'	48:5:2200:U:H6	1.86	0.41
48:5:2985:C:H2'	48:5:2986:U:C6	2.55	0.41
48:5:3205:G:H2'	48:5:3206:C:C5	2.56	0.41
15:O:156[B]:LEU:HB3	48:5:3243:A:N7	2.36	0.41
48:5:3257:C:H2'	48:5:3258:U:O4'	2.20	0.41
48:5:594:U:C5'	48:5:609:G:H1	2.33	0.41
48:5:345:G:O2'	50:8:25:G:N3	2.54	0.41
1:A:180:LEU:HD23	1:A:180:LEU:HA	1.79	0.41
1:A:83:HIS:O	1:A:86:GLN:HB3	2.21	0.41
3:C:52:VAL:HB	3:C:99:MET:CE	2.51	0.41
7:G:205:ALA:HA	7:G:208:GLU:OE1	2.21	0.41
8:H:13:PRO:HG2	8:H:16:VAL:HG13	2.02	0.41
9:I:160:PRO:HD3	48:5:2854:U:H5''	2.03	0.41
10:J:151:SER:O	10:J:152:HIS:CB	2.68	0.41
14:N:102:ALA:O	14:N:106:VAL:HG13	2.21	0.41
14:N:68:ARG:HD2	48:5:291:C:OP1	2.21	0.41
19:S:74:ASN:OD1	19:S:95:ARG:NH1	2.54	0.41
20:T:139:ARG:CG	20:T:139:ARG:NH1	2.83	0.41
23:W:120:LYS:O	23:W:123:ARG:HB2	2.21	0.41
26:Z:68:ILE:O	26:Z:115:LYS:HG3	2.21	0.41
48:5:1596:C:H2'	48:5:1597:C:C6	2.55	0.41
48:5:1813:A:O2'	48:5:1816:A:N3	2.47	0.41
1:A:8:GLN:HA	48:5:2163:C:H4'	2.01	0.41
48:5:2530:G:C2'	48:5:2531:C:H5'	2.51	0.41
2:B:130:PHE:CE2	48:5:3149:G:H4'	2.56	0.41
15:O:116[A]:LYS:HB2	48:5:3180:A:H5''	2.03	0.41
49:7:4:U:H2'	49:7:5:G:H8	1.86	0.41
2:B:57:VAL:HG23	2:B:358:TRP:HE3	1.85	0.41
4:D:272:TYR:CE2	49:7:22:A:H1'	2.55	0.41
6:F:102:VAL:HG12	6:F:130:ILE:CD1	2.50	0.41
7:G:123:GLN:C	7:G:125:ALA:H	2.24	0.41
8:H:86:TYR:CE1	8:H:151:VAL:HG13	2.56	0.41
8:H:66:ALA:O	8:H:70:THR:HG22	2.21	0.41
12:L:109:PHE:O	12:L:113:VAL:HG23	2.20	0.41
14:N:193:ARG:HH11	14:N:193:ARG:HD2	1.75	0.41
15:O:156[A]:LEU:HD13	48:5:3243:A:C8	2.56	0.41
15:O:88[B]:VAL:HG12	15:O:89[B]:SER:N	2.36	0.41
21:U:90:ARG:NH1	21:U:90:ARG:HB3	2.36	0.41
48:5:1685:C:H2'	48:5:1686:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:2222:A:H8	48:5:2222:A:O5'	2.04	0.41
48:5:1449:A:C2	48:5:2356:A:C4	3.08	0.41
14:N:171:SER:O	48:5:288:C:H4'	2.21	0.41
48:5:2910:A:H8	48:5:2910:A:H5''	1.85	0.41
1:A:221:LYS:NZ	48:5:2965:U:O2	2.53	0.41
48:5:3255:U:H6	48:5:3255:U:O5'	2.04	0.41
48:5:3351:U:H3'	48:5:3351:U:O2	2.21	0.41
48:5:594:U:O2'	48:5:595:G:H5'	2.20	0.41
49:7:110:G:C6	49:7:111:U:C4	3.08	0.41
49:7:24:A:H2'	49:7:25:G:O4'	2.21	0.41
1:A:206:PRO:HG3	1:A:213:GLY:CA	2.51	0.41
3:C:306:THR:HG22	3:C:306:THR:O	2.21	0.41
10:J:75:LYS:HB3	10:J:75:LYS:HE2	1.84	0.41
10:J:82:ARG:HB3	10:J:112:LEU:HB2	2.03	0.41
13:M:14:LEU:HA	13:M:14:LEU:HD23	1.82	0.41
19:S:50:LYS:HG2	19:S:50:LYS:HZ3	1.53	0.41
20:T:68:THR:HG23	20:T:69:LYS:N	2.35	0.41
22:V:128:ARG:CZ	22:V:128:ARG:HB3	2.51	0.41
48:5:1072:G:H2'	48:5:1073:U:C6	2.56	0.40
48:5:1572:U:O2'	48:5:1573:G:H8	2.04	0.40
48:5:3245:A:C2	48:5:3246:G:C2	3.08	0.40
48:5:3353:G:H4'	48:5:3354:U:OP2	2.21	0.40
48:5:371:G:H4'	48:5:396:A:N1	2.36	0.40
48:5:926:A:H2'	48:5:927:C:H6	1.86	0.40
1:A:116:VAL:CG1	1:A:126:LEU:HB2	2.47	0.40
2:B:233:TRP:CD1	2:B:265:ALA:HB1	2.56	0.40
14:N:44:ARG:HB3	14:N:47:LYS:HB3	2.02	0.40
15:O:121[A]:PRO:HA	15:O:124[A]:LEU:HD22	2.02	0.40
26:Z:109:GLU:O	26:Z:113:VAL:HG23	2.21	0.40
48:5:1018:G:C5	48:5:1035:G:C2	3.10	0.40
48:5:1352:A:H3'	48:5:1352:A:P	2.61	0.40
48:5:384:A:H1'	48:5:1465:A:C8	2.56	0.40
48:5:237:G:N2	48:5:238:A:O4'	2.54	0.40
48:5:2442:G:N2	48:5:2506:U:H3	2.17	0.40
48:5:2697:A:H2'	48:5:2698:G:C8	2.56	0.40
48:5:2775:U:H2'	48:5:2776:C:C6	2.56	0.40
48:5:291:C:H2'	48:5:292:U:C6	2.56	0.40
49:7:27:A:H2'	49:7:28:C:C6	2.56	0.40
3:C:195:ARG:O	3:C:196:ASN:HB2	2.21	0.40
4:D:124:GLU:O	4:D:125:VAL:HB	2.20	0.40
8:H:37:ASN:OD1	8:H:39:LYS:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:24:ARG:O	9:I:25:ALA:HB3	2.21	0.40
13:M:59:ASN:O	13:M:62:GLN:HG2	2.21	0.40
15:O:171[B]:LYS:NZ	48:5:3180:A:OP1	2.54	0.40
17:Q:138:LEU:HD23	17:Q:138:LEU:HA	1.74	0.40
18:R:100:ARG:HH11	18:R:100:ARG:HD2	1.71	0.40
48:5:1046:A:H2'	48:5:1049:C:C5	2.56	0.40
48:5:1049:C:H2'	48:5:1050:U:C6	2.55	0.40
48:5:1081:U:HO2'	48:5:1082:U:H5''	1.87	0.40
48:5:1262:G:H5''	48:5:1263:A:OP2	2.21	0.40
48:5:2872:A:HO2'	48:5:2873:U:P	2.42	0.40
48:5:2916:U:H5	48:5:2935:U:HO2'	1.60	0.40
48:5:3167:A:O5'	48:5:3167:A:H8	2.05	0.40
48:5:3218:A:OP1	48:5:3218:A:H3'	2.21	0.40
48:5:993:G:N3	48:5:2637:A:H2'	2.36	0.40
49:7:113:C:H2'	49:7:114:U:O4'	2.22	0.40
24:X:49:LYS:HE3	50:8:135:G:OP1	2.20	0.40
1:A:179:LEU:O	1:A:184:ARG:HD2	2.21	0.40
4:D:261:THR:H	4:D:264:GLN:CD	2.24	0.40
4:D:92:LEU:HA	4:D:92:LEU:HD23	1.68	0.40
6:F:236:ILE:O	6:F:240:VAL:HG23	2.20	0.40
10:J:82:ARG:NH1	10:J:112:LEU:O	2.46	0.40
14:N:28:TRP:O	14:N:32:GLN:HG2	2.21	0.40
14:N:93:LYS:HG3	48:5:289:A:N3	2.35	0.40
15:O:106[B]:GLU:H	15:O:106[B]:GLU:HG2	1.56	0.40
15:O:64[A]:PHE:CE2	15:O:68[A]:ARG:HD3	2.56	0.40
15:O:95[B]:GLY:O	15:O:98[B]:ALA:HB3	2.22	0.40
17:Q:63:SER:O	17:Q:66:ARG:HB3	2.22	0.40
18:R:169:ALA:O	18:R:173:ARG:HB3	2.21	0.40
21:U:37:LEU:HA	21:U:37:LEU:HD13	1.91	0.40
25:Y:39:LEU:HD12	25:Y:43:TYR:HE1	1.87	0.40
26:Z:28:PRO:O	26:Z:29:HIS:C	2.60	0.40
48:5:139:G:H2'	48:5:140:C:C6	2.56	0.40
48:5:2567:C:N4	48:5:2568:C:H41	2.19	0.40
10:J:142:LYS:HE3	48:5:2664:C:OP2	2.21	0.40
2:B:250:ALA:HB1	48:5:2947:G:C2	2.57	0.40
48:5:3066:U:H2'	48:5:3067:C:C6	2.57	0.40
48:5:3131:U:H2'	48:5:3132:C:C6	2.56	0.40
48:5:3132:C:H2'	48:5:3133:C:C6	2.56	0.40
48:5:3275:U:H4'	48:5:3276:G:OP2	2.19	0.40
48:5:372:A:C6	48:5:373:A:C6	3.09	0.40
48:5:36:C:C2'	48:5:37:U:H5'	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:5:411:U:H2'	48:5:412:G:H8	1.86	0.40
48:5:436:A:H5''	48:5:436:A:H8	1.86	0.40
48:5:600:G:H5''	48:5:600:G:C8	2.54	0.40
48:5:721:G:C2	48:5:722:G:C8	3.10	0.40
48:5:703:G:O2'	48:5:787:G:H4'	2.22	0.40
2:B:258:ALA:O	2:B:259:HIS:CD2	2.75	0.40
5:E:47:PHE:CD1	5:E:74:VAL:HG22	2.56	0.40
8:H:57:VAL:HG23	8:H:68:LEU:HG	2.03	0.40
9:I:62:SER:HA	9:I:65:LEU:HD12	2.04	0.40
14:N:179:LYS:O	48:5:287:G:H5'	2.21	0.40
15:O:194[B]:LEU:O	15:O:199[B]:TYR:N	2.48	0.40
15:O:27[A]:LEU:HB3	15:O:98[A]:ALA:O	2.22	0.40
21:U:14:THR:HG23	21:U:66:VAL:HG13	2.03	0.40
24:X:55:ASN:OD1	24:X:56:ARG:O	2.39	0.40
48:5:1064:A:N6	48:5:1096:U:H3	2.19	0.40
48:5:138:U:H2'	48:5:139:G:H8	1.86	0.40
48:5:167:U:H2'	48:5:168:U:H6	1.86	0.40
48:5:253:A:O2'	48:5:254:A:P	2.80	0.40
48:5:256:G:H2'	48:5:257:U:H6	1.87	0.40
48:5:3237:U:H2'	48:5:3238:G:H5''	2.03	0.40
1:A:133:TYR:CD2	1:A:168:VAL:HG12	2.57	0.40
2:B:19:ARG:HB3	2:B:232:ARG:NH1	2.37	0.40
3:C:170:LYS:CG	3:C:175:HIS:HB2	2.52	0.40
3:C:341:SER:O	3:C:342:LYS:HB3	2.22	0.40
4:D:140:ARG:HH11	48:5:1080:A:P	2.44	0.40
4:D:18:THR:HA	4:D:19:PRO:HD3	1.95	0.40
8:H:31:ARG:HB2	8:H:82:VAL:HA	2.02	0.40
9:I:169:LYS:O	9:I:170:LYS:HB2	2.21	0.40
10:J:92:ARG:HG2	10:J:92:ARG:NH1	2.26	0.40
11:K:16:UNK:O	11:K:61:UNK:N	2.54	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	250/254 (98%)	213 (85%)	30 (12%)	7 (3%)	5	37
2	B	384/387 (99%)	341 (89%)	34 (9%)	9 (2%)	7	41
3	C	359/362 (99%)	306 (85%)	32 (9%)	21 (6%)	2	23
4	D	292/297 (98%)	267 (91%)	19 (6%)	6 (2%)	8	43
5	E	153/176 (87%)	134 (88%)	15 (10%)	4 (3%)	6	38
6	F	221/244 (91%)	201 (91%)	15 (7%)	5 (2%)	7	41
7	G	229/256 (90%)	181 (79%)	27 (12%)	21 (9%)	1	14
8	H	189/191 (99%)	172 (91%)	13 (7%)	4 (2%)	8	43
9	I	209/221 (95%)	175 (84%)	22 (10%)	12 (6%)	2	23
10	J	167/174 (96%)	135 (81%)	19 (11%)	13 (8%)	1	17
12	L	192/199 (96%)	161 (84%)	20 (10%)	11 (6%)	2	23
13	M	135/138 (98%)	124 (92%)	10 (7%)	1 (1%)	24	67
14	N	201/204 (98%)	182 (90%)	13 (6%)	6 (3%)	5	35
15	O	352/219 (161%)	324 (92%)	18 (5%)	10 (3%)	5	37
16	P	153/184 (83%)	142 (93%)	9 (6%)	2 (1%)	13	54
17	Q	183/186 (98%)	168 (92%)	9 (5%)	6 (3%)	4	33
18	R	186/189 (98%)	167 (90%)	16 (9%)	3 (2%)	11	50
19	S	170/172 (99%)	163 (96%)	6 (4%)	1 (1%)	27	70
20	T	157/160 (98%)	146 (93%)	9 (6%)	2 (1%)	13	54
21	U	96/121 (79%)	80 (83%)	13 (14%)	3 (3%)	4	35
22	V	134/137 (98%)	124 (92%)	8 (6%)	2 (2%)	11	51
23	W	133/155 (86%)	106 (80%)	19 (14%)	8 (6%)	2	22
24	X	118/142 (83%)	103 (87%)	7 (6%)	8 (7%)	1	19
25	Y	124/127 (98%)	107 (86%)	12 (10%)	5 (4%)	3	29
26	Z	133/136 (98%)	107 (80%)	13 (10%)	13 (10%)	1	12
27	a	146/149 (98%)	123 (84%)	18 (12%)	5 (3%)	4	33
28	b	56/59 (95%)	44 (79%)	7 (12%)	5 (9%)	1	14
29	c	98/105 (93%)	87 (89%)	8 (8%)	3 (3%)	4	35
30	d	107/113 (95%)	88 (82%)	13 (12%)	6 (6%)	2	24
31	e	125/130 (96%)	109 (87%)	10 (8%)	6 (5%)	2	26

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
32	f	104/107 (97%)	96 (92%)	5 (5%)	3 (3%)	5	36
33	g	110/121 (91%)	93 (84%)	13 (12%)	4 (4%)	4	32
34	h	117/120 (98%)	99 (85%)	14 (12%)	4 (3%)	4	33
35	i	97/100 (97%)	77 (79%)	13 (13%)	7 (7%)	1	18
36	j	85/88 (97%)	75 (88%)	8 (9%)	2 (2%)	6	40
37	k	75/78 (96%)	61 (81%)	10 (13%)	4 (5%)	2	25
38	l	48/51 (94%)	41 (85%)	6 (12%)	1 (2%)	8	43
39	m	50/128 (39%)	48 (96%)	1 (2%)	1 (2%)	8	45
40	n	23/25 (92%)	22 (96%)	0	1 (4%)	3	28
41	o	103/106 (97%)	90 (87%)	11 (11%)	2 (2%)	9	45
42	p	89/92 (97%)	81 (91%)	8 (9%)	0	100	100
43	q	117/312 (38%)	93 (80%)	18 (15%)	6 (5%)	2	25
46	t	376/614 (61%)	354 (94%)	14 (4%)	8 (2%)	8	43
All	All	6846/7529 (91%)	6010 (88%)	585 (8%)	251 (4%)	6	31

All (251) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	96	LEU
2	B	129	ALA
2	B	140	ASP
2	B	347	SER
3	C	14	GLU
3	C	15	ALA
3	C	90	PHE
3	C	145	ILE
3	C	302	ALA
3	C	311	HIS
3	C	329	PRO
3	C	330	TYR
3	C	361	HIS
4	D	215	ASP
4	D	260	PHE
5	E	97	ASN
5	E	98	VAL
6	F	158	LYS
7	G	25	PRO

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Mol	Chain	Res	Type
7	G	26	LEU
7	G	34	PHE
7	G	122	LYS
9	I	25	ALA
9	I	82	ARG
9	I	170	LYS
9	I	175	ASN
9	I	187	ALA
10	J	8	PRO
10	J	10	ARG
10	J	12	LEU
10	J	94	ARG
10	J	95	ASN
10	J	108	GLU
10	J	115	LYS
10	J	167	TYR
12	L	47	ALA
12	L	129	ASN
12	L	134	GLU
12	L	150	PRO
13	M	136	ALA
14	N	49	ARG
14	N	146	ALA
14	N	147	ARG
15	O	110[A]	PRO
15	O	110[B]	PRO
15	O	111[A]	PRO
15	O	111[B]	PRO
15	O	180[A]	SER
15	O	180[B]	SER
15	O	181[A]	ALA
15	O	181[B]	ALA
17	Q	41	ASP
17	Q	99	THR
18	R	35	ALA
19	S	2	ALA
20	T	136	ARG
22	V	42	SER
23	W	26	SER
23	W	71	ARG
23	W	76	VAL
24	X	24	LEU

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Mol	Chain	Res	Type
24	X	25	LYS
24	X	40	LEU
24	X	44	PRO
24	X	45	LYS
25	Y	77	LYS
25	Y	83	ASP
25	Y	84	LYS
25	Y	125	LYS
25	Y	126	LEU
26	Z	5	LEU
26	Z	125	GLY
26	Z	129	TRP
27	a	76	ASP
28	b	21	ILE
28	b	23	LYS
28	b	25	LYS
28	b	39	PHE
29	c	100	ILE
29	c	104	LEU
30	d	7	VAL
30	d	45	GLY
30	d	84	ASP
31	e	4	LEU
31	e	5	PRO
31	e	27	ARG
32	f	88	ASN
33	g	10	ARG
33	g	100	ILE
34	h	40	SER
34	h	82	ALA
35	i	33	ALA
35	i	63	ASN
35	i	64	SER
35	i	98	ARG
36	j	87	SER
37	k	17	ARG
37	k	18	ALA
38	l	3	ALA
41	o	78	LYS
46	t	62	PRO
46	t	169	ILE
1	A	24	GLN

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Mol	Chain	Res	Type
1	A	194	ASN
2	B	235	THR
2	B	293	ASN
3	C	71	VAL
3	C	190	GLY
3	C	272	VAL
3	C	345	GLU
3	C	353	ALA
4	D	125	VAL
4	D	178	ASN
7	G	81	THR
7	G	121	SER
7	G	188	THR
7	G	203	VAL
7	G	223	ALA
7	G	240	ASN
8	H	144	ILE
8	H	189	GLU
9	I	220	GLN
10	J	55	ARG
12	L	135	ALA
12	L	141	ALA
14	N	184	LYS
16	P	66	SER
16	P	67	ILE
17	Q	91	ALA
17	Q	167	SER
21	U	49	ASN
21	U	91	ASP
22	V	41	GLY
23	W	63	ILE
23	W	77	LYS
26	Z	17	ARG
26	Z	93	LYS
26	Z	130	PHE
26	Z	134	LEU
27	a	24	LYS
29	c	10	ILE
30	d	83	GLU
31	e	6	HIS
31	e	12	LYS
31	e	124	GLY

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Mol	Chain	Res	Type
32	f	91	ALA
34	h	119	LYS
40	n	23	ARG
43	q	47	GLY
43	q	198	PRO
46	t	61	VAL
46	t	354	ILE
1	A	56	ALA
1	A	144	ASN
1	A	249	SER
2	B	138	ALA
2	B	155	ALA
3	C	146	PRO
4	D	270	LYS
5	E	10	TYR
5	E	32	ALA
7	G	39	ALA
7	G	123	GLN
7	G	133	LYS
7	G	237	ILE
9	I	83	ASP
9	I	101	LYS
9	I	174	THR
9	I	176	LEU
12	L	101	ARG
12	L	140	SER
14	N	181	ASN
15	O	12[A]	LYS
15	O	12[B]	LYS
21	U	48	GLY
23	W	74	LYS
23	W	134	GLN
24	X	38	LEU
24	X	47	ALA
24	X	55	ASN
26	Z	16	GLY
27	a	47	LYS
30	d	5	LYS
30	d	86	LYS
33	g	79	SER
35	i	34	SER
43	q	33	VAL

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Mol	Chain	Res	Type
46	t	173	THR
46	t	175	PRO
1	A	143	GLU
2	B	333	LYS
3	C	233	LEU
3	C	306	THR
3	C	331	ALA
3	C	342	LYS
4	D	124	GLU
6	F	191	VAL
7	G	206	GLU
8	H	167	VAL
9	I	207	GLU
12	L	60	ALA
12	L	76	THR
14	N	48	ALA
18	R	147	ALA
23	W	25	ASP
26	Z	34	LYS
26	Z	36	HIS
27	a	121	VAL
33	g	99	LYS
36	j	85	LYS
37	k	8	ILE
37	k	19	ASP
43	q	102	SER
3	C	5	GLN
6	F	229	PHE
7	G	69	LEU
7	G	120	LYS
7	G	124	ASP
8	H	110	LYS
10	J	111	ASP
10	J	153	LYS
12	L	121	SER
17	Q	98	LYS
18	R	183	ALA
20	T	20	ARG
26	Z	7	ALA
27	a	129	PHE
28	b	24	PRO
35	i	9	ILE

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Mol	Chain	Res	Type
39	m	78	ILE
43	q	197	PHE
2	B	187	SER
3	C	328	ASN
6	F	157	ASN
7	G	202	GLU
9	I	204	GLY
10	J	114	ILE
26	Z	29	HIS
34	h	83	LYS
6	F	178	ILE
7	G	190	VAL
43	q	196	VAL
46	t	389	PRO
26	Z	103	GLN
35	i	3	VAL
41	o	31	GLY
46	t	550	VAL
7	G	73	PRO
10	J	118	PRO
17	Q	42	ALA
32	f	59	VAL

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	192/196 (98%)	154 (80%)	38 (20%)	1	9
2	B	321/323 (99%)	251 (78%)	70 (22%)	1	7
3	C	288/289 (100%)	222 (77%)	66 (23%)	1	6
4	D	243/245 (99%)	196 (81%)	47 (19%)	1	10
5	E	135/153 (88%)	115 (85%)	20 (15%)	3	18
6	F	187/205 (91%)	158 (84%)	29 (16%)	3	17
7	G	177/208 (85%)	138 (78%)	39 (22%)	1	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	H	171/171 (100%)	132 (77%)	39 (23%)	1	6
9	I	179/187 (96%)	142 (79%)	37 (21%)	1	8
10	J	147/150 (98%)	114 (78%)	33 (22%)	1	7
12	L	154/159 (97%)	124 (80%)	30 (20%)	1	10
13	M	108/109 (99%)	84 (78%)	24 (22%)	1	7
14	N	175/176 (99%)	143 (82%)	32 (18%)	2	12
15	O	323/179 (180%)	267 (83%)	56 (17%)	2	13
16	P	125/146 (86%)	103 (82%)	22 (18%)	2	13
17	Q	150/151 (99%)	123 (82%)	27 (18%)	2	12
18	R	153/154 (99%)	121 (79%)	32 (21%)	1	8
19	S	156/156 (100%)	123 (79%)	33 (21%)	1	7
20	T	136/137 (99%)	109 (80%)	27 (20%)	1	9
21	U	85/107 (79%)	62 (73%)	23 (27%)	0	4
22	V	104/105 (99%)	96 (92%)	8 (8%)	14	44
23	W	100/129 (78%)	85 (85%)	15 (15%)	3	18
24	X	104/118 (88%)	81 (78%)	23 (22%)	1	7
25	Y	109/110 (99%)	85 (78%)	24 (22%)	1	7
26	Z	115/116 (99%)	89 (77%)	26 (23%)	1	6
27	a	118/119 (99%)	95 (80%)	23 (20%)	1	10
28	b	46/47 (98%)	35 (76%)	11 (24%)	1	5
29	c	84/88 (96%)	69 (82%)	15 (18%)	2	12
30	d	94/97 (97%)	73 (78%)	21 (22%)	1	7
31	e	109/111 (98%)	89 (82%)	20 (18%)	2	12
32	f	90/91 (99%)	79 (88%)	11 (12%)	5	24
33	g	95/103 (92%)	71 (75%)	24 (25%)	0	4
34	h	103/105 (98%)	77 (75%)	26 (25%)	0	4
35	i	80/82 (98%)	51 (64%)	29 (36%)	0	1
36	j	70/71 (99%)	53 (76%)	17 (24%)	1	5
37	k	67/69 (97%)	53 (79%)	14 (21%)	1	8
38	l	45/46 (98%)	34 (76%)	11 (24%)	1	5
39	m	47/116 (40%)	34 (72%)	13 (28%)	0	3

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	n	23/23 (100%)	16 (70%)	7 (30%)	0	2
41	o	90/91 (99%)	74 (82%)	16 (18%)	2	13
42	p	71/72 (99%)	61 (86%)	10 (14%)	4	20
43	q	105/233 (45%)	76 (72%)	29 (28%)	0	3
46	t	332/539 (62%)	330 (99%)	2 (1%)	87	93
All	All	5806/6282 (92%)	4687 (81%)	1119 (19%)	4	10

All (1119) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	15	ILE
1	A	23	ARG
1	A	32	LEU
1	A	41	ILE
1	A	44	ILE
1	A	45	VAL
1	A	46	LYS
1	A	48	ILE
1	A	61	VAL
1	A	62	VAL
1	A	71	LEU
1	A	96	LEU
1	A	101	VAL
1	A	112	ILE
1	A	113	VAL
1	A	114	SER
1	A	119	LYS
1	A	134	VAL
1	A	137	ILE
1	A	142	ASP
1	A	147	ARG
1	A	155	LYS
1	A	158	ILE
1	A	169	ILE
1	A	179	LEU
1	A	180	LEU
1	A	181	LYS
1	A	193	ARG
1	A	202	VAL
1	A	207	VAL

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Mol	Chain	Res	Type
1	A	215	ASN
1	A	224	THR
1	A	226	SER
1	A	227	ARG
1	A	230	VAL
1	A	241	ARG
1	A	243	THR
1	A	246	LEU
2	B	3	HIS
2	B	4	ARG
2	B	10	ARG
2	B	17	LEU
2	B	19	ARG
2	B	20	LYS
2	B	21	ARG
2	B	24	SER
2	B	30	LYS
2	B	43	LEU
2	B	47	LEU
2	B	50	LYS
2	B	56	ILE
2	B	67	PHE
2	B	70	ARG
2	B	77	THR
2	B	79	VAL
2	B	81	THR
2	B	84	VAL
2	B	85	VAL
2	B	89	VAL
2	B	100	ARG
2	B	103	THR
2	B	114	VAL
2	B	116	ARG
2	B	139	GLN
2	B	146	ARG
2	B	148	LEU
2	B	150	ARG
2	B	153	LYS
2	B	157	VAL
2	B	169	THR
2	B	175	LYS
2	B	183	LEU

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Mol	Chain	Res	Type
2	B	187	SER
2	B	188	ILE
2	B	192	VAL
2	B	196	ARG
2	B	202	THR
2	B	205	VAL
2	B	213	GLU
2	B	221	THR
2	B	229	VAL
2	B	232	ARG
2	B	235	THR
2	B	236	LYS
2	B	238	LEU
2	B	242	THR
2	B	248	LYS
2	B	252	ILE
2	B	284	ARG
2	B	291	GLU
2	B	297	SER
2	B	301	THR
2	B	304	THR
2	B	308	MET
2	B	322	ILE
2	B	324	VAL
2	B	328	ILE
2	B	332	ARG
2	B	338	LEU
2	B	340	LYS
2	B	346	THR
2	B	347	SER
2	B	355	SER
2	B	361	THR
2	B	367	LYS
2	B	369	ARG
2	B	380	MET
2	B	382	THR
3	C	2	SER
3	C	7	THR
3	C	16	THR
3	C	18	ASN
3	C	25	VAL
3	C	27	SER

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Mol	Chain	Res	Type
3	C	52	VAL
3	C	53	SER
3	C	55	LYS
3	C	71	VAL
3	C	85	SER
3	C	93	MET
3	C	99	MET
3	C	112	LYS
3	C	120	TYR
3	C	122	THR
3	C	136	LEU
3	C	138	ARG
3	C	144	LYS
3	C	145	ILE
3	C	150	LEU
3	C	153	SER
3	C	156	LEU
3	C	158	SER
3	C	160	GLN
3	C	161	LYS
3	C	170	LYS
3	C	176	SER
3	C	177	ASP
3	C	179	LEU
3	C	182	LEU
3	C	186	LYS
3	C	187	LEU
3	C	198	ARG
3	C	203	ARG
3	C	206	LEU
3	C	220	ARG
3	C	222	VAL
3	C	230	VAL
3	C	246	ARG
3	C	258	LEU
3	C	259	ASP
3	C	265	GLU
3	C	267	VAL
3	C	283	THR
3	C	287	THR
3	C	289	ILE
3	C	290	ILE

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Mol	Chain	Res	Type
3	C	300	ARG
3	C	307	GLN
3	C	313	LEU
3	C	319	LYS
3	C	323	VAL
3	C	327	LEU
3	C	333	VAL
3	C	339	LEU
3	C	342	LYS
3	C	345	GLU
3	C	349	THR
3	C	354	VAL
3	C	356	THR
3	C	357	GLU
3	C	358	THR
3	C	359	LEU
3	C	360	LYS
3	C	362	ASP
4	D	4	GLN
4	D	5	LYS
4	D	13	SER
4	D	34	LYS
4	D	35	ARG
4	D	41	LYS
4	D	51	LEU
4	D	65	ILE
4	D	68	THR
4	D	70	THR
4	D	74	VAL
4	D	81	HIS
4	D	89	THR
4	D	93	THR
4	D	110	LEU
4	D	112	LYS
4	D	113	LEU
4	D	118	THR
4	D	124	GLU
4	D	131	LEU
4	D	133	GLU
4	D	136	GLU
4	D	146	LEU
4	D	148	ILE

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Mol	Chain	Res	Type
4	D	152	ARG
4	D	155	THR
4	D	164	LYS
4	D	185	PHE
4	D	186	GLU
4	D	189	GLU
4	D	190	ILE
4	D	191	ASP
4	D	194	LEU
4	D	205	SER
4	D	211	LEU
4	D	218	ARG
4	D	227	LEU
4	D	232	ASP
4	D	251	PRO
4	D	254	LYS
4	D	258	LYS
4	D	259	LYS
4	D	262	LYS
4	D	268	GLU
4	D	273	ARG
4	D	275	THR
4	D	282	ARG
5	E	5	LYS
5	E	8	LYS
5	E	20	LYS
5	E	21	THR
5	E	46	ARG
5	E	50	LYS
5	E	64	LEU
5	E	65	ILE
5	E	76	LEU
5	E	78	ARG
5	E	79	VAL
5	E	89	THR
5	E	93	VAL
5	E	98	VAL
5	E	99	GLU
5	E	109	GLU
5	E	143	LYS
5	E	152	THR
5	E	155	LEU

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Mol	Chain	Res	Type
5	E	162	SER
6	F	22	THR
6	F	24	GLU
6	F	26	VAL
6	F	39	GLU
6	F	41	ARG
6	F	45	LEU
6	F	53	LYS
6	F	54	GLU
6	F	56	GLU
6	F	60	ARG
6	F	83	LEU
6	F	88	ARG
6	F	98	LYS
6	F	101	LYS
6	F	121	LYS
6	F	124	LEU
6	F	130	ILE
6	F	156	ILE
6	F	158	LYS
6	F	159	GLN
6	F	173	LEU
6	F	175	LYS
6	F	179	LEU
6	F	184	LEU
6	F	196	LYS
6	F	206	LYS
6	F	219	LYS
6	F	229	PHE
6	F	239	LEU
7	G	26	LEU
7	G	41	GLN
7	G	50	VAL
7	G	68	ARG
7	G	70	LYS
7	G	74	THR
7	G	79	GLN
7	G	81	THR
7	G	85	ASN
7	G	89	GLU
7	G	92	LYS
7	G	95	ASN

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Mol	Chain	Res	Type
7	G	110	THR
7	G	126	SER
7	G	128	LYS
7	G	136	LEU
7	G	145	ASN
7	G	146	LYS
7	G	149	LYS
7	G	150	LEU
7	G	153	ILE
7	G	160	ILE
7	G	169	LEU
7	G	172	LYS
7	G	173	MET
7	G	183	LYS
7	G	185	ARG
7	G	189	LEU
7	G	208	GLU
7	G	213	LYS
7	G	214	LEU
7	G	216	SER
7	G	217	THR
7	G	219	ASP
7	G	222	PHE
7	G	230	LYS
7	G	241	LYS
7	G	245	LYS
7	G	248	LYS
8	H	4	ILE
8	H	5	GLN
8	H	6	THR
8	H	18	VAL
8	H	19	SER
8	H	20	ILE
8	H	31	ARG
8	H	33	THR
8	H	43	VAL
8	H	44	THR
8	H	52	LEU
8	H	55	VAL
8	H	62	ARG
8	H	63	LYS
8	H	68	LEU

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Mol	Chain	Res	Type
8	H	69	ARG
8	H	70	THR
8	H	80	THR
8	H	82	VAL
8	H	92	TYR
8	H	106	LYS
8	H	121	LYS
8	H	123	ILE
8	H	129	ARG
8	H	130	ASP
8	H	132	VAL
8	H	133	THR
8	H	134	ILE
8	H	138	THR
8	H	144	ILE
8	H	151	VAL
8	H	157	ASN
8	H	161	LEU
8	H	162	GLN
8	H	164	ILE
8	H	169	ASN
8	H	177	ASP
8	H	179	ILE
8	H	191	LEU
9	I	4	ARG
9	I	24	ARG
9	I	26	VAL
9	I	36	LEU
9	I	42	THR
9	I	52	LEU
9	I	57	LEU
9	I	58	GLU
9	I	63	GLU
9	I	71	CYS
9	I	74	LYS
9	I	76	MET
9	I	78	THR
9	I	83	ASP
9	I	87	LEU
9	I	91	VAL
9	I	99	ILE
9	I	129	VAL

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Mol	Chain	Res	Type
9	I	139	ARG
9	I	140	THR
9	I	143	SER
9	I	144	ASN
9	I	145	LYS
9	I	153	ARG
9	I	163	GLN
9	I	167	LEU
9	I	169	LYS
9	I	174	THR
9	I	177	ASP
9	I	178	ARG
9	I	185	ARG
9	I	200	LEU
9	I	206	LEU
9	I	211	ARG
9	I	212	GLU
9	I	215	GLU
9	I	217	PHE
10	J	10	ARG
10	J	12	LEU
10	J	13	LYS
10	J	16	LYS
10	J	22	SER
10	J	29	ARG
10	J	30	LEU
10	J	31	THR
10	J	34	SER
10	J	35	LYS
10	J	44	THR
10	J	46	VAL
10	J	80	LEU
10	J	87	LYS
10	J	92	ARG
10	J	94	ARG
10	J	106	ILE
10	J	107	ASP
10	J	112	LEU
10	J	114	ILE
10	J	129	VAL
10	J	130	VAL
10	J	132	ASN

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Mol	Chain	Res	Type
10	J	137	ARG
10	J	138	VAL
10	J	140	ARG
10	J	142	LYS
10	J	147	THR
10	J	158	ASP
10	J	159	THR
10	J	160	VAL
10	J	161	SER
10	J	165	GLN
12	L	45	LYS
12	L	46	ILE
12	L	54	LEU
12	L	55	ARG
12	L	59	ARG
12	L	63	VAL
12	L	67	ARG
12	L	68	LYS
12	L	69	VAL
12	L	73	ARG
12	L	85	LEU
12	L	100	ARG
12	L	107	GLU
12	L	114	GLN
12	L	115	ARG
12	L	118	GLU
12	L	121	SER
12	L	123	ILE
12	L	124	ILE
12	L	128	ARG
12	L	131	LYS
12	L	152	THR
12	L	154	VAL
12	L	157	ARG
12	L	164	GLU
12	L	171	ARG
12	L	175	SER
12	L	184	GLU
12	L	189	GLU
12	L	194	GLU
13	M	3	THR
13	M	10	SER

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Mol	Chain	Res	Type
13	M	13	ARG
13	M	20	VAL
13	M	24	LYS
13	M	42	LYS
13	M	53	VAL
13	M	62	GLN
13	M	63	VAL
13	M	64	VAL
13	M	72	LEU
13	M	74	ARG
13	M	80	THR
13	M	82	SER
13	M	92	GLU
13	M	106	ARG
13	M	107	GLU
13	M	124	ARG
13	M	126	GLN
13	M	128	ARG
13	M	130	THR
13	M	132	LYS
13	M	133	LYS
13	M	135	LEU
14	N	5	LYS
14	N	7	LEU
14	N	8	GLU
14	N	10	LEU
14	N	12	ARG
14	N	15	GLN
14	N	18	VAL
14	N	22	LEU
14	N	24	ARG
14	N	41	ARG
14	N	49	ARG
14	N	54	LYS
14	N	68	ARG
14	N	80	THR
14	N	85	THR
14	N	92	LEU
14	N	93	LYS
14	N	96	ARG
14	N	97	SER
14	N	104	GLU

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Mol	Chain	Res	Type
14	N	105	ARG
14	N	109	ARG
14	N	117	ASN
14	N	134	LEU
14	N	138	GLN
14	N	155	VAL
14	N	159	ARG
14	N	170	LYS
14	N	184	LYS
14	N	190	THR
14	N	196	THR
14	N	204	LYS
15	O	3[A]	VAL
15	O	3[B]	SER
15	O	12[A]	LYS
15	O	12[B]	LYS
15	O	16[B]	LEU
15	O	22[B]	THR
15	O	27[B]	VAL
15	O	34[A]	VAL
15	O	34[B]	VAL
15	O	41[A]	LEU
15	O	41[B]	LEU
15	O	58[A]	LEU
15	O	58[B]	LEU
15	O	59[A]	ARG
15	O	59[B]	ARG
15	O	67[A]	THR
15	O	67[B]	THR
15	O	74[A]	ARG
15	O	74[B]	ARG
15	O	78[A]	ARG
15	O	78[B]	ARG
15	O	80[B]	LEU
15	O	85[A]	ARG
15	O	85[B]	ARG
15	O	100[A]	GLU
15	O	100[B]	GLU
15	O	106[A]	GLU
15	O	106[B]	GLU
15	O	108[A]	ILE
15	O	108[B]	ILE

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Mol	Chain	Res	Type
15	O	117[A]	ARG
15	O	117[B]	ARG
15	O	124[A]	LEU
15	O	124[B]	LEU
15	O	126[A]	VAL
15	O	126[B]	VAL
15	O	128[A]	ARG
15	O	128[B]	ARG
15	O	129[A]	LEU
15	O	129[B]	LEU
15	O	130[A]	LYS
15	O	130[B]	LYS
15	O	144[A]	SER
15	O	144[B]	SER
15	O	160[A]	ARG
15	O	160[B]	ARG
15	O	163[B]	ARG
15	O	166[A]	GLU
15	O	166[B]	GLU
15	O	171[A]	LYS
15	O	171[B]	LYS
15	O	175[A]	THR
15	O	175[B]	THR
15	O	182[A]	ASN
15	O	184[A]	THR
15	O	197[A]	LEU
16	P	9	THR
16	P	24	VAL
16	P	29	THR
16	P	31	GLU
16	P	32	THR
16	P	41	LEU
16	P	52	LEU
16	P	56	ARG
16	P	69	ARG
16	P	74	LYS
16	P	78	VAL
16	P	79	THR
16	P	80	LYS
16	P	89	LYS
16	P	94	LEU
16	P	103	GLU

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Mol	Chain	Res	Type
16	P	112	LEU
16	P	114	VAL
16	P	119	VAL
16	P	126	ARG
16	P	128	ARG
16	P	138	LYS
17	Q	3	ILE
17	Q	7	SER
17	Q	17	THR
17	Q	24	VAL
17	Q	26	LEU
17	Q	31	LYS
17	Q	32	LEU
17	Q	34	THR
17	Q	49	LEU
17	Q	57	ILE
17	Q	64	VAL
17	Q	80	THR
17	Q	81	VAL
17	Q	86	THR
17	Q	93	ILE
17	Q	98	LYS
17	Q	100	THR
17	Q	105	ARG
17	Q	113	LYS
17	Q	135	GLN
17	Q	138	LEU
17	Q	147	ARG
17	Q	150	VAL
17	Q	161	LYS
17	Q	165	ILE
17	Q	166	LEU
17	Q	170	ARG
18	R	5	ARG
18	R	7	GLN
18	R	10	LEU
18	R	17	VAL
18	R	20	ARG
18	R	27	ASN
18	R	29	THR
18	R	36	ASN
18	R	39	ASN

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Mol	Chain	Res	Type
18	R	43	LYS
18	R	49	THR
18	R	55	VAL
18	R	56	THR
18	R	63	THR
18	R	70	LYS
18	R	71	ARG
18	R	74	ARG
18	R	98	ARG
18	R	99	LEU
18	R	105	LEU
18	R	106	LEU
18	R	114	LYS
18	R	126	GLU
18	R	138	LEU
18	R	152	GLU
18	R	153	LYS
18	R	158	GLU
18	R	162	ARG
18	R	164	LEU
18	R	167	ARG
18	R	173	ARG
18	R	180	LYS
19	S	1	MET
19	S	13	ARG
19	S	15	PRO
19	S	17	GLU
19	S	21	GLU
19	S	23	LYS
19	S	40	ARG
19	S	50	LYS
19	S	51	VAL
19	S	52	LYS
19	S	61	ILE
19	S	71	LYS
19	S	74	ASN
19	S	80	ARG
19	S	87	THR
19	S	96	ASP
19	S	97	VAL
19	S	100	VAL
19	S	104	GLU

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Mol	Chain	Res	Type
19	S	105	THR
19	S	115	ARG
19	S	117	ARG
19	S	130	GLU
19	S	136	LYS
19	S	146	LYS
19	S	148	LEU
19	S	149	LYS
19	S	155	ARG
19	S	161	LYS
19	S	162	THR
19	S	166	LYS
19	S	169	SER
19	S	172	TYR
20	T	17	ARG
20	T	25	VAL
20	T	26	HIS
20	T	27	LEU
20	T	35	LYS
20	T	36	VAL
20	T	47	SER
20	T	55	LYS
20	T	68	THR
20	T	71	SER
20	T	78	LYS
20	T	80	VAL
20	T	83	ARG
20	T	88	ARG
20	T	89	LEU
20	T	96	ILE
20	T	102	ARG
20	T	104	GLU
20	T	118	GLU
20	T	126	VAL
20	T	131	GLN
20	T	135	PRO
20	T	139	ARG
20	T	143	THR
20	T	149	GLN
20	T	150	THR
20	T	160	ILE
21	U	13	LYS

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Mol	Chain	Res	Type
21	U	14	THR
21	U	16	THR
21	U	21	SER
21	U	23	THR
21	U	27	VAL
21	U	28	PHE
21	U	37	LEU
21	U	39	ASP
21	U	43	VAL
21	U	50	LEU
21	U	52	ASN
21	U	54	VAL
21	U	55	THR
21	U	58	GLU
21	U	61	THR
21	U	62	VAL
21	U	63	VAL
21	U	68	THR
21	U	90	ARG
21	U	98	THR
21	U	100	THR
21	U	105	LEU
22	V	13	ILE
22	V	14	SER
22	V	48	ARG
22	V	70	ARG
22	V	88	ARG
22	V	91	VAL
22	V	110	LYS
22	V	115	THR
23	W	1	MET
23	W	5	ILE
23	W	25	ASP
23	W	47	ARG
23	W	56	ARG
23	W	57	LYS
23	W	63	ILE
23	W	95	SER
23	W	97	LYS
23	W	100	VAL
23	W	105	ARG
23	W	107	GLU

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Mol	Chain	Res	Type
23	W	126	GLU
23	W	127	LYS
23	W	135	SER
24	X	24	LEU
24	X	27	ARG
24	X	34	LEU
24	X	37	THR
24	X	38	LEU
24	X	40	LEU
24	X	56	ARG
24	X	57	LEU
24	X	63	ILE
24	X	70	GLU
24	X	71	THR
24	X	73	MET
24	X	74	LYS
24	X	86	VAL
24	X	101	GLU
24	X	108	LEU
24	X	109	LYS
24	X	115	ARG
24	X	121	LYS
24	X	125	ARG
24	X	133	LEU
24	X	135	ILE
24	X	142	ILE
25	Y	12	ARG
25	Y	13	ARG
25	Y	14	LYS
25	Y	17	LYS
25	Y	37	LYS
25	Y	40	ARG
25	Y	43	TYR
25	Y	45	ILE
25	Y	50	ILE
25	Y	52	ARG
25	Y	57	LEU
25	Y	59	VAL
25	Y	66	GLN
25	Y	71	SER
25	Y	74	TYR
25	Y	76	LEU

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Mol	Chain	Res	Type
25	Y	80	VAL
25	Y	83	ASP
25	Y	87	LYS
25	Y	94	SER
25	Y	95	VAL
25	Y	97	ILE
25	Y	103	LYS
25	Y	120	GLN
26	Z	3	LYS
26	Z	14	VAL
26	Z	17	ARG
26	Z	24	VAL
26	Z	30	ASP
26	Z	31	GLU
26	Z	34	LYS
26	Z	55	LYS
26	Z	65	ARG
26	Z	72	ILE
26	Z	81	LEU
26	Z	83	THR
26	Z	86	THR
26	Z	89	VAL
26	Z	93	LYS
26	Z	95	VAL
26	Z	99	GLU
26	Z	100	THR
26	Z	102	GLU
26	Z	103	GLN
26	Z	105	SER
26	Z	121	ARG
26	Z	126	LYS
26	Z	127	ASN
26	Z	134	LEU
26	Z	135	ARG
27	a	6	THR
27	a	8	THR
27	a	10	LYS
27	a	12	ARG
27	a	16	SER
27	a	24	LYS
27	a	34	MET
27	a	42	ARG

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Mol	Chain	Res	Type
27	a	44	ASN
27	a	47	LYS
27	a	60	TYR
27	a	78	LEU
27	a	80	THR
27	a	82	ILE
27	a	85	ASP
27	a	91	LEU
27	a	97	GLU
27	a	98	THR
27	a	115	LYS
27	a	128	ARG
27	a	130	VAL
27	a	132	LYS
27	a	133	LEU
28	b	14	ARG
28	b	15	LYS
28	b	21	ILE
28	b	22	LYS
28	b	26	THR
28	b	33	LYS
28	b	38	LYS
28	b	50	THR
28	b	52	LYS
28	b	58	LYS
28	b	59	LYS
29	c	8	GLU
29	c	18	ILE
29	c	19	LYS
29	c	30	THR
29	c	33	SER
29	c	34	LEU
29	c	40	LYS
29	c	41	LEU
29	c	48	THR
29	c	61	MET
29	c	68	TYR
29	c	86	ARG
29	c	87	VAL
29	c	99	ASP
29	c	100	ILE
30	d	6	ASP

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Mol	Chain	Res	Type
30	d	8	VAL
30	d	13	THR
30	d	16	LEU
30	d	26	LYS
30	d	31	ARG
30	d	34	LYS
30	d	44	MET
30	d	55	LEU
30	d	61	LYS
30	d	76	SER
30	d	82	GLU
30	d	89	LEU
30	d	90	PHE
30	d	96	VAL
30	d	100	SER
30	d	102	LYS
30	d	104	LEU
30	d	105	GLN
30	d	106	THR
30	d	110	GLU
31	e	4	LEU
31	e	14	THR
31	e	16	LYS
31	e	18	LYS
31	e	19	ARG
31	e	27	ARG
31	e	31	ASN
31	e	33	ARG
31	e	35	GLN
31	e	51	SER
31	e	61	LYS
31	e	73	THR
31	e	75	LEU
31	e	82	LEU
31	e	87	MET
31	e	91	THR
31	e	106	VAL
31	e	109	LEU
31	e	125	ARG
31	e	126	LEU
32	f	4	SER
32	f	10	LYS

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Mol	Chain	Res	Type
32	f	20	LYS
32	f	28	SER
32	f	31	LYS
32	f	49	ILE
32	f	70	LYS
32	f	81	VAL
32	f	84	THR
32	f	98	VAL
32	f	107	ILE
33	g	5	VAL
33	g	9	ARG
33	g	16	ARG
33	g	19	LYS
33	g	20	ILE
33	g	23	VAL
33	g	24	LYS
33	g	29	ILE
33	g	30	LEU
33	g	31	ARG
33	g	35	VAL
33	g	36	LYS
33	g	44	CYS
33	g	54	ILE
33	g	58	ARG
33	g	65	VAL
33	g	70	LYS
33	g	79	SER
33	g	85	VAL
33	g	86	LYS
33	g	88	ARG
33	g	90	ILE
33	g	98	GLN
33	g	104	VAL
34	h	15	GLU
34	h	20	GLN
34	h	21	LEU
34	h	27	GLU
34	h	28	LEU
34	h	38	ARG
34	h	40	SER
34	h	45	LYS
34	h	47	VAL

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Mol	Chain	Res	Type
34	h	48	ARG
34	h	57	VAL
34	h	62	GLN
34	h	66	VAL
34	h	69	LEU
34	h	79	ASP
34	h	81	ARG
34	h	84	LYS
34	h	85	THR
34	h	86	ARG
34	h	89	ARG
34	h	90	ARG
34	h	98	SER
34	h	100	VAL
34	h	101	THR
34	h	107	LYS
34	h	119	LYS
35	i	3	VAL
35	i	7	ILE
35	i	9	ILE
35	i	11	LEU
35	i	17	VAL
35	i	18	THR
35	i	21	THR
35	i	26	ILE
35	i	29	LYS
35	i	34	SER
35	i	36	ARG
35	i	37	THR
35	i	38	LYS
35	i	43	LEU
35	i	45	ARG
35	i	57	LEU
35	i	58	ILE
35	i	60	LEU
35	i	61	ILE
35	i	66	GLU
35	i	68	ARG
35	i	74	LYS
35	i	75	LYS
35	i	76	ARG
35	i	81	THR

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Mol	Chain	Res	Type
35	i	88	GLU
35	i	90	MET
35	i	94	ILE
35	i	98	ARG
36	j	3	LYS
36	j	11	ARG
36	j	17	THR
36	j	25	ARG
36	j	33	THR
36	j	36	SER
36	j	44	THR
36	j	55	ARG
36	j	58	THR
36	j	59	THR
36	j	64	MET
36	j	65	ARG
36	j	67	LEU
36	j	68	LYS
36	j	75	LYS
36	j	80	THR
36	j	84	SER
37	k	5	ILE
37	k	12	LEU
37	k	24	THR
37	k	31	LEU
37	k	39	ARG
37	k	41	THR
37	k	46	ARG
37	k	50	SER
37	k	53	THR
37	k	61	LYS
37	k	64	LYS
37	k	65	LEU
37	k	67	GLN
37	k	68	SER
38	l	11	GLN
38	l	15	LYS
38	l	17	LYS
38	l	21	ARG
38	l	23	LEU
38	l	27	ILE
38	l	29	LEU

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Mol	Chain	Res	Type
38	l	41	ARG
38	l	45	ARG
38	l	47	THR
38	l	51	ILE
39	m	78	ILE
39	m	79	GLU
39	m	83	LYS
39	m	85	LEU
39	m	88	LYS
39	m	91	CYS
39	m	93	LYS
39	m	106	ARG
39	m	112	LYS
39	m	113	ARG
39	m	114	LYS
39	m	126	LYS
39	m	127	LEU
40	n	6	ARG
40	n	9	ARG
40	n	13	LEU
40	n	16	LYS
40	n	21	ARG
40	n	23	ARG
40	n	24	SER
41	o	7	THR
41	o	8	ARG
41	o	18	ARG
41	o	46	LYS
41	o	47	GLN
41	o	61	LYS
41	o	63	LYS
41	o	71	ARG
41	o	78	LYS
41	o	79	THR
41	o	83	LEU
41	o	84	THR
41	o	89	LYS
41	o	93	LEU
41	o	104	LEU
41	o	105	GLN
42	p	3	LYS
42	p	24	ARG

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Mol	Chain	Res	Type
42	p	42	CYS
42	p	48	LYS
42	p	49	ARG
42	p	54	ILE
42	p	56	THR
42	p	79	VAL
42	p	89	MET
42	p	90	VAL
43	q	4	ILE
43	q	5	ARG
43	q	10	GLU
43	q	30	VAL
43	q	32	ASN
43	q	39	HIS
43	q	42	ARG
43	q	44	GLU
43	q	51	VAL
43	q	52	LEU
43	q	55	LYS
43	q	57	THR
43	q	67	LEU
43	q	68	SER
43	q	70	LEU
43	q	72	ASP
43	q	74	GLU
43	q	75	LYS
43	q	76	LEU
43	q	79	PHE
43	q	80	VAL
43	q	81	LYS
43	q	84	VAL
43	q	91	GLU
43	q	93	LEU
43	q	96	ILE
43	q	97	LYS
43	q	185	LEU
43	q	196	VAL
46	t	87	ARG
46	t	417	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	209	HIS
1	A	215	ASN
3	C	48	GLN
3	C	114	ASN
3	C	221	ASN
3	C	291	ASN
4	D	40	HIS
4	D	63	GLN
4	D	81	HIS
5	E	167	ASN
10	J	109	HIS
10	J	132	ASN
12	L	19	GLN
13	M	126	GLN
16	P	55	GLN
17	Q	9	GLN
18	R	34	GLN
20	T	49	GLN
21	U	40	HIS
22	V	33	ASN
26	Z	57	HIS
27	a	44	ASN
32	f	77	ASN
33	g	52	GLN
34	h	20	GLN
43	q	36	GLN
46	t	33	GLN
46	t	82	ASN
46	t	156	HIS
46	t	394	HIS
46	t	533	GLN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
47	1	0/114	-	-
48	5	3145/3396 (92%)	731 (23%)	129 (4%)
49	7	120/121 (99%)	18 (15%)	0
50	8	157/158 (99%)	32 (20%)	3 (1%)
All	All	3422/3789 (90%)	781 (22%)	132 (3%)

All (781) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
48	5	14	U
48	5	15	C
48	5	16	A
48	5	26	A
48	5	38	U
48	5	40	A
48	5	43	A
48	5	49	A
48	5	60	A
48	5	65	A
48	5	66	A
48	5	74	G
48	5	76	G
48	5	77	A
48	5	92	G
48	5	93	C
48	5	96	G
48	5	99	A
48	5	109	A
48	5	110	G
48	5	111	C
48	5	116	A
48	5	121	A
48	5	122	A
48	5	133	U
48	5	134	U
48	5	135	C
48	5	136	G
48	5	146	U
48	5	150	A
48	5	152	U
48	5	156	G
48	5	157	A
48	5	160	G
48	5	166	C
48	5	170	G
48	5	171	G
48	5	174	C
48	5	178	U
48	5	180	C
48	5	182	U
48	5	183	G
48	5	184	U

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Mol	Chain	Res	Type
48	5	187	A
48	5	190	U
48	5	191	U
48	5	200	C
48	5	201	A
48	5	210	U
48	5	218	G
48	5	219	A
48	5	221	A
48	5	235	A
48	5	236	G
48	5	238	A
48	5	239	G
48	5	240	U
48	5	242	C
48	5	244	G
48	5	248	U
48	5	249	U
48	5	250	U
48	5	251	G
48	5	252	U
48	5	253	A
48	5	254	A
48	5	258	G
48	5	259	C
48	5	269	G
48	5	283	G
48	5	284	A
48	5	286	U
48	5	294	U
48	5	295	A
48	5	305	U
48	5	322	U
48	5	323	A
48	5	329	U
48	5	334	A
48	5	339	C
48	5	349	A
48	5	350	C
48	5	351	A
48	5	352	A
48	5	370	U

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Mol	Chain	Res	Type
48	5	376	G
48	5	390	G
48	5	395	A
48	5	398	A
48	5	399	A
48	5	401	U
48	5	402	A
48	5	403	C
48	5	421	G
48	5	422	A
48	5	436	A
48	5	437	G
48	5	438	A
48	5	439	C
48	5	440	A
48	5	441	U
48	5	442	G
48	5	443	G
48	5	492	U
48	5	493	G
48	5	495	G
48	5	520	U
48	5	521	A
48	5	531	G
48	5	535	G
48	5	538	G
48	5	546	C
48	5	547	G
48	5	548	G
48	5	551	A
48	5	553	U
48	5	555	U
48	5	557	A
48	5	559	A
48	5	578	A
48	5	579	G
48	5	592	A
48	5	594	U
48	5	595	G
48	5	600	G
48	5	604	G
48	5	609	G

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Mol	Chain	Res	Type
48	5	610	G
48	5	611	A
48	5	612	U
48	5	619	A
48	5	620	U
48	5	621	A
48	5	630	A
48	5	636	C
48	5	649	A
48	5	653	A
48	5	656	A
48	5	660	A
48	5	675	C
48	5	677	A
48	5	681	U
48	5	705	A
48	5	708	G
48	5	712	G
48	5	715	A
48	5	716	A
48	5	719	U
48	5	720	A
48	5	725	G
48	5	726	G
48	5	735	A
48	5	736	A
48	5	750	G
48	5	758	C
48	5	766	U
48	5	767	U
48	5	768	C
48	5	776	U
48	5	777	U
48	5	780	A
48	5	781	G
48	5	785	G
48	5	786	A
48	5	806	A
48	5	809	G
48	5	817	A
48	5	830	A
48	5	846	A

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Mol	Chain	Res	Type
48	5	851	C
48	5	861	C
48	5	862	U
48	5	871	U
48	5	874	U
48	5	879	U
48	5	891	G
48	5	893	C
48	5	896	A
48	5	897	U
48	5	907	G
48	5	908	G
48	5	914	A
48	5	916	G
48	5	917	A
48	5	921	A
48	5	923	C
48	5	924	G
48	5	937	G
48	5	944	C
48	5	946	U
48	5	947	G
48	5	958	C
48	5	959	C
48	5	960	U
48	5	974	G
48	5	979	U
48	5	980	A
48	5	981	U
48	5	983	A
48	5	994	G
48	5	1000	C
48	5	1001	G
48	5	1002	A
48	5	1003	A
48	5	1010	G
48	5	1014	U
48	5	1015	U
48	5	1016	C
48	5	1017	C
48	5	1018	G
48	5	1020	G

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Mol	Chain	Res	Type
48	5	1021	G
48	5	1023	C
48	5	1024	G
48	5	1025	A
48	5	1026	A
48	5	1027	A
48	5	1028	U
48	5	1029	G
48	5	1032	C
48	5	1034	U
48	5	1035	G
48	5	1047	A
48	5	1049	C
48	5	1057	A
48	5	1064	A
48	5	1065	A
48	5	1071	U
48	5	1072	G
48	5	1081	U
48	5	1082	U
48	5	1085	A
48	5	1093	A
48	5	1094	U
48	5	1095	U
48	5	1096	U
48	5	1097	G
48	5	1098	A
48	5	1103	A
48	5	1104	G
48	5	1117	G
48	5	1131	G
48	5	1153	A
48	5	1159	A
48	5	1160	C
48	5	1174	G
48	5	1178	G
48	5	1179	A
48	5	1180	A
48	5	1181	U
48	5	1182	A
48	5	1191	U
48	5	1192	C

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Mol	Chain	Res	Type
48	5	1193	A
48	5	1201	C
48	5	1209	G
48	5	1213	G
48	5	1222	G
48	5	1223	A
48	5	1232	C
48	5	1233	G
48	5	1236	G
48	5	1237	G
48	5	1239	C
48	5	1241	U
48	5	1242	G
48	5	1243	G
48	5	1245	A
48	5	1246	G
48	5	1248	C
48	5	1258	U
48	5	1259	A
48	5	1262	G
48	5	1263	A
48	5	1264	G
48	5	1265	U
48	5	1266	G
48	5	1270	A
48	5	1281	G
48	5	1285	G
48	5	1294	A
48	5	1307	G
48	5	1308	A
48	5	1309	U
48	5	1312	C
48	5	1330	A
48	5	1332	A
48	5	1348	U
48	5	1349	G
48	5	1350	A
48	5	1351	U
48	5	1352	A
48	5	1353	U
48	5	1354	G
48	5	1355	A

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Mol	Chain	Res	Type
48	5	1356	U
48	5	1357	G
48	5	1366	A
48	5	1385	C
48	5	1386	A
48	5	1387	G
48	5	1399	A
48	5	1400	G
48	5	1403	C
48	5	1419	A
48	5	1422	G
48	5	1428	A
48	5	1434	G
48	5	1437	C
48	5	1440	G
48	5	1446	A
48	5	1450	G
48	5	1460	A
48	5	1481	A
48	5	1482	A
48	5	1490	A
48	5	1495	U
48	5	1502	C
48	5	1503	A
48	5	1508	C
48	5	1527	C
48	5	1541	G
48	5	1542	G
48	5	1549	U
48	5	1554	U
48	5	1555	U
48	5	1556	C
48	5	1557	A
48	5	1560	G
48	5	1561	G
48	5	1562	C
48	5	1563	C
48	5	1565	G
48	5	1566	A
48	5	1567	U
48	5	1568	U
48	5	1569	U

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Mol	Chain	Res	Type
48	5	1570	U
48	5	1571	A
48	5	1572	U
48	5	1574	C
48	5	1575	A
48	5	1576	G
48	5	1577	G
48	5	1578	C
48	5	1580	A
48	5	1581	C
48	5	1582	C
48	5	1583	A
48	5	1587	A
48	5	1589	A
48	5	1593	A
48	5	1605	A
48	5	1607	U
48	5	1608	C
48	5	1620	U
48	5	1629	U
48	5	1633	C
48	5	1635	G
48	5	1639	C
48	5	1641	U
48	5	1643	A
48	5	1644	C
48	5	1645	U
48	5	1655	G
48	5	1657	C
48	5	1680	G
48	5	1683	A
48	5	1716	U
48	5	1717	U
48	5	1718	G
48	5	1724	U
48	5	1725	C
48	5	1736	G
48	5	1750	A
48	5	1751	G
48	5	1754	G
48	5	1758	G
48	5	1760	A

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Mol	Chain	Res	Type
48	5	1762	C
48	5	1764	U
48	5	1765	U
48	5	1766	G
48	5	1767	C
48	5	1770	G
48	5	1778	G
48	5	1780	G
48	5	1783	U
48	5	1797	A
48	5	1810	A
48	5	1812	G
48	5	1814	A
48	5	1815	U
48	5	1816	A
48	5	1817	G
48	5	1818	U
48	5	1820	U
48	5	1821	U
48	5	1835	A
48	5	1841	A
48	5	1842	A
48	5	1846	C
48	5	1849	C
48	5	1850	A
48	5	1855	U
48	5	1871	U
48	5	1876	U
48	5	1878	G
48	5	1879	A
48	5	1880	U
48	5	1905	G
48	5	1906	G
48	5	1909	A
48	5	1918	C
48	5	1927	G
48	5	1940	G
48	5	1953	G
48	5	2100	A
48	5	2101	C
48	5	2102	U
48	5	2112	U

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Mol	Chain	Res	Type
48	5	2113	A
48	5	2114	C
48	5	2121	G
48	5	2122	G
48	5	2128	C
48	5	2131	A
48	5	2134	G
48	5	2139	A
48	5	2144	A
48	5	2158	A
48	5	2169	G
48	5	2170	U
48	5	2171	G
48	5	2192	C
48	5	2201	G
48	5	2205	U
48	5	2210	G
48	5	2213	A
48	5	2222	A
48	5	2223	A
48	5	2228	A
48	5	2229	A
48	5	2244	A
48	5	2250	G
48	5	2253	G
48	5	2255	A
48	5	2256	A
48	5	2257	C
48	5	2258	U
48	5	2264	U
48	5	2270	A
48	5	2273	G
48	5	2276	G
48	5	2278	C
48	5	2279	A
48	5	2288	G
48	5	2290	C
48	5	2294	U
48	5	2298	U
48	5	2307	G
48	5	2310	U
48	5	2313	A

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Mol	Chain	Res	Type
48	5	2315	G
48	5	2324	A
48	5	2329	C
48	5	2334	U
48	5	2335	G
48	5	2336	U
48	5	2373	A
48	5	2374	C
48	5	2375	G
48	5	2377	G
48	5	2385	G
48	5	2388	U
48	5	2393	G
48	5	2394	G
48	5	2396	G
48	5	2397	A
48	5	2398	A
48	5	2400	G
48	5	2401	A
48	5	2402	A
48	5	2403	G
48	5	2404	A
48	5	2405	C
48	5	2406	C
48	5	2411	U
48	5	2418	G
48	5	2435	G
48	5	2436	U
48	5	2437	G
48	5	2438	A
48	5	2439	A
48	5	2440	G
48	5	2441	A
48	5	2443	A
48	5	2504	U
48	5	2505	U
48	5	2506	U
48	5	2507	C
48	5	2508	U
48	5	2510	U
48	5	2511	A
48	5	2512	C

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Mol	Chain	Res	Type
48	5	2513	U
48	5	2514	U
48	5	2515	A
48	5	2518	C
48	5	2523	A
48	5	2524	A
48	5	2526	C
48	5	2530	G
48	5	2531	C
48	5	2532	U
48	5	2534	G
48	5	2538	U
48	5	2539	C
48	5	2540	A
48	5	2543	U
48	5	2544	U
48	5	2549	G
48	5	2552	C
48	5	2555	G
48	5	2562	A
48	5	2567	C
48	5	2568	C
48	5	2569	A
48	5	2570	U
48	5	2571	U
48	5	2572	C
48	5	2573	G
48	5	2574	G
48	5	2584	G
48	5	2585	G
48	5	2589	G
48	5	2590	A
48	5	2591	A
48	5	2593	A
48	5	2594	C
48	5	2598	G
48	5	2599	U
48	5	2606	G
48	5	2607	G
48	5	2610	G
48	5	2614	G
48	5	2615	G

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Mol	Chain	Res	Type
48	5	2622	C
48	5	2637	A
48	5	2639	G
48	5	2652	U
48	5	2656	A
48	5	2662	G
48	5	2663	G
48	5	2667	A
48	5	2674	A
48	5	2677	G
48	5	2678	A
48	5	2681	U
48	5	2683	U
48	5	2689	A
48	5	2691	A
48	5	2694	A
48	5	2696	A
48	5	2714	G
48	5	2723	U
48	5	2728	G
48	5	2729	U
48	5	2752	U
48	5	2753	G
48	5	2762	A
48	5	2771	U
48	5	2772	C
48	5	2773	C
48	5	2776	C
48	5	2777	G
48	5	2778	G
48	5	2779	A
48	5	2796	G
48	5	2799	A
48	5	2800	G
48	5	2801	A
48	5	2810	C
48	5	2817	A
48	5	2818	U
48	5	2819	A
48	5	2822	U
48	5	2829	U
48	5	2839	G

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Mol	Chain	Res	Type
48	5	2844	C
48	5	2845	A
48	5	2853	A
48	5	2871	G
48	5	2872	A
48	5	2873	U
48	5	2875	U
48	5	2887	A
48	5	2889	C
48	5	2896	A
48	5	2897	A
48	5	2898	G
48	5	2899	C
48	5	2904	U
48	5	2910	A
48	5	2923	U
48	5	2928	C
48	5	2935	U
48	5	2936	A
48	5	2941	A
48	5	2942	C
48	5	2945	G
48	5	2947	G
48	5	2954	U
48	5	2957	G
48	5	2970	C
48	5	2971	A
48	5	2972	G
48	5	2979	U
48	5	2983	C
48	5	2987	A
48	5	2990	G
48	5	2996	U
48	5	2997	G
48	5	3012	A
48	5	3028	G
48	5	3050	U
48	5	3056	U
48	5	3057	U
48	5	3059	G
48	5	3078	U
48	5	3079	U

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Mol	Chain	Res	Type
48	5	3080	G
48	5	3086	A
48	5	3087	A
48	5	3092	C
48	5	3130	A
48	5	3131	U
48	5	3139	A
48	5	3142	A
48	5	3143	C
48	5	3148	U
48	5	3153	U
48	5	3154	C
48	5	3155	U
48	5	3156	U
48	5	3157	U
48	5	3158	G
48	5	3159	C
48	5	3164	C
48	5	3165	A
48	5	3166	C
48	5	3168	A
48	5	3171	U
48	5	3172	A
48	5	3173	G
48	5	3174	A
48	5	3175	U
48	5	3176	G
48	5	3177	G
48	5	3179	U
48	5	3180	A
48	5	3181	C
48	5	3187	A
48	5	3195	U
48	5	3196	U
48	5	3207	U
48	5	3217	C
48	5	3218	A
48	5	3219	G
48	5	3222	U
48	5	3223	A
48	5	3224	G
48	5	3227	A

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Mol	Chain	Res	Type
48	5	3229	G
48	5	3238	G
48	5	3245	A
48	5	3246	G
48	5	3247	G
48	5	3251	U
48	5	3253	G
48	5	3259	U
48	5	3260	G
48	5	3269	U
48	5	3270	U
48	5	3273	A
48	5	3275	U
48	5	3276	G
48	5	3277	U
48	5	3279	A
48	5	3280	U
48	5	3282	U
48	5	3284	G
48	5	3285	C
48	5	3286	G
48	5	3288	G
48	5	3289	G
48	5	3290	G
48	5	3292	A
48	5	3294	A
48	5	3304	U
48	5	3307	A
48	5	3313	U
48	5	3316	A
48	5	3317	U
48	5	3318	G
48	5	3319	U
48	5	3320	A
48	5	3330	A
48	5	3333	G
48	5	3335	A
48	5	3336	A
48	5	3341	U
48	5	3342	A
48	5	3343	G
48	5	3345	G

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Mol	Chain	Res	Type
48	5	3349	C
48	5	3351	U
48	5	3352	U
48	5	3354	U
48	5	3355	U
48	5	3356	G
48	5	3357	U
48	5	3358	U
48	5	3369	G
48	5	3378	C
48	5	3382	U
48	5	3383	G
48	5	3389	U
48	5	3390	G
48	5	3393	U
48	5	3396	U
49	7	7	G
49	7	22	A
49	7	27	A
49	7	33	U
49	7	38	U
49	7	42	A
49	7	54	U
49	7	61	G
49	7	65	G
49	7	66	A
49	7	73	C
49	7	74	C
49	7	93	C
49	7	101	G
49	7	102	A
49	7	103	A
49	7	104	A
49	7	112	G
50	8	21	C
50	8	34	U
50	8	35	C
50	8	48	A
50	8	52	A
50	8	53	A
50	8	59	A
50	8	62	C

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Mol	Chain	Res	Type
50	8	63	G
50	8	79	A
50	8	80	A
50	8	81	U
50	8	83	C
50	8	84	C
50	8	86	U
50	8	87	G
50	8	90	U
50	8	95	G
50	8	104	A
50	8	105	A
50	8	106	C
50	8	111	A
50	8	113	U
50	8	122	U
50	8	125	U
50	8	126	A
50	8	127	U
50	8	138	A
50	8	152	G
50	8	156	U
50	8	157	U
50	8	158	U

All (132) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
48	5	43	A
48	5	65	A
48	5	93	C
48	5	151	A
48	5	169	U
48	5	183	G
48	5	217	U
48	5	238	A
48	5	282	G
48	5	397	A
48	5	436	A
48	5	438	A
48	5	439	C
48	5	545	U

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Mol	Chain	Res	Type
48	5	546	C
48	5	588	G
48	5	611	A
48	5	619	A
48	5	647	A
48	5	705	A
48	5	715	A
48	5	719	U
48	5	726	G
48	5	735	A
48	5	765	C
48	5	786	A
48	5	816	A
48	5	873	C
48	5	896	A
48	5	908	G
48	5	916	G
48	5	937	G
48	5	979	U
48	5	993	G
48	5	1027	A
48	5	1033	U
48	5	1064	A
48	5	1081	U
48	5	1085	A
48	5	1094	U
48	5	1152	G
48	5	1181	U
48	5	1192	C
48	5	1222	G
48	5	1236	G
48	5	1238	C
48	5	1239	C
48	5	1241	U
48	5	1284	C
48	5	1307	G
48	5	1317	A
48	5	1329	U
48	5	1331	U
48	5	1352	A
48	5	1355	A
48	5	1434	G

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Mol	Chain	Res	Type
48	5	1481	A
48	5	1507	G
48	5	1514	G
48	5	1554	U
48	5	1560	G
48	5	1568	U
48	5	1574	C
48	5	1580	A
48	5	1589	A
48	5	1607	U
48	5	1716	U
48	5	1724	U
48	5	1815	U
48	5	1816	A
48	5	1817	G
48	5	1819	U
48	5	1841	A
48	5	1842	A
48	5	1849	C
48	5	1878	G
48	5	1879	A
48	5	2101	C
48	5	2112	U
48	5	2116	G
48	5	2204	C
48	5	2209	U
48	5	2249	G
48	5	2255	A
48	5	2257	C
48	5	2372	A
48	5	2374	C
48	5	2440	G
48	5	2507	C
48	5	2513	U
48	5	2531	C
48	5	2537	U
48	5	2539	C
48	5	2583	C
48	5	2585	G
48	5	2593	A
48	5	2662	G
48	5	2682	C

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Mol	Chain	Res	Type
48	5	2689	A
48	5	2714	G
48	5	2728	G
48	5	2752	U
48	5	2772	C
48	5	2777	G
48	5	2801	A
48	5	2817	A
48	5	2818	U
48	5	2887	A
48	5	2896	A
48	5	2970	C
48	5	2971	A
48	5	2996	U
48	5	3056	U
48	5	3078	U
48	5	3154	C
48	5	3155	U
48	5	3167	A
48	5	3195	U
48	5	3218	A
48	5	3228	C
48	5	3259	U
48	5	3269	U
48	5	3275	U
48	5	3289	G
48	5	3317	U
48	5	3330	A
48	5	3340	G
48	5	3341	U
48	5	3357	U
50	8	111	A
50	8	126	A
50	8	156	U

## 5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
11	K	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	K	52:UNK	C	54:UNK	N	3.86
1	K	23:UNK	C	28:UNK	N	3.48